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Georgia Highway Express, Inc., 488 F.2d 714, 717-19 (5th Cir. 1974). These factors govern fee petition analysis in the Fourth Circuit. See *Barber v. Kimbrell's, Inc.*, 577 F.2d 216, 226-28 (4th Cir.), cert. denied, 439 U.S. 934 (1978). The factors are: (1) time and labor expended; (2) novelty and difficulty of the questions raised; (3) the skill required to properly perform the legal services rendered; (4) the attorneys' opportunity cost in pressing the litigation; (5) the customary fee for like work; (6) attorneys' expectation at the outset of the litigation; (7) time litigations imposed by client or the circumstances of the case; (8) amount in controversy and the results obtained; (9) the experience, reputation and ability of the attorneys; (10) the undesirability of the case within the legal community; (11) nature and length of professional relationship between the attorney and client; and (12) attorneys' fees awarded in similar cases. In this case, only factors 1-3, 5, 7-9, and 12 are applicable.

In this case, the Court finds that it cannot with any real accuracy separate out work that was done as to SRFG and work that was done as to other defendants. Indeed, it would be unfair to SRFG for the Court to impose on it the attorneys' fees attributable to work directed to the other defendants, all of whom settled in full except for the BluBlocker defendants who settled as to the three Johansen patents and later prevailed on a motion for summary judgment of noninfringement as to the fourth patent. Apparently none of the settling defendants were required to pay their portion of the plaintiffs' attorneys' fees and costs.

With this litigation scenario in mind, the Court will assess the amount of attorneys' fees and costs to which it finds the plaintiffs are entitled. Plaintiffs assert that three attorneys took primary responsibility for the case: (1) Mr. Schiffley, who worked 781 hours and whose normal rates are \$280/hour; (2) Mr. Meece, who worked 2053.65 hours and whose normal rates are \$180/hour; and (3) Mr. Johnson, who worked 841.85 hours and whose normal rates are \$235/hour. The total number of hours billed by the law firm for work on the entire lawsuit is 7150.95.

The Court finds that the hourly rates charged by the various attorneys are reasonable in view of their levels of experience and in light of commensurate fees charged in Northern Virginia for similarly qualified counsel. (Factor 12). Patent law is a specialized area and requires special expertise; therefore, hourly rates are somewhat higher than those of general practitioners. (Factors 3, 5, and 9).

The Court, however, finds the plaintiffs' various approaches to hours unreasonable. Indeed, if the Court awarded plaintiffs are fees sought for the work of these three attorneys, the amount of that award would be \$786,171.75. The Court finds this amount to be excessive because it does not reflect the fact that SRFG was only one of the many defendants named in this action. Indeed, other defendants, and in particular the BluBlocker defendants, took the lead during the discovery and summary judgment phases of this litigation. In fact, the Court granted summary judgment in favor of the BluBlocker defendants, and all other defendants except for SRFG settled; therefore, it would not be appropriate to compensate the plaintiffs for the fees incurred for work directed at those other defendants, especially because SRFG did not even have counsel throughout much of the pendency of this litigation and because they did not take an aggressive approach to the litigation, demanded minimum attention. (Factor 7).

Nevertheless, after the February 13, 1998, grant of summary judgment in favor of the BluBlocker defendants, the only remaining defendant was SRFG. Plaintiffs assert that the total amount of fees and costs incurred after February 13, 1998, through the trial is \$164,051.25, and because SRFG was the only remaining defendant throughout that period, 100% of those costs are attributable to SRFG. Rather than trying to apportion a percentage of pre-February 13, 1998, billings to SRFG and then to evaluate all post-February 13, 1998, billings for factors for which the Court usually does not award fees, such as two attorneys conferring, the court will award all of the post-February 13, 1998, fees that represent work done by the three lead counsel and none of the pre-February 13, 1998, fees.

The Court limits plaintiffs' award to that portion that represents the work of the three lead counsel because plaintiffs' counsel submitted redacted records in support of the petition, making it impossible for the Court to determine what work was actually done and by whom. Accordingly, the Court will reduce the \$164,051.25 amount to \$130,643.75. The Court comes to this figure by multiplying the hours that the three lead attorneys worked, for the period after February 13, 1998, through the trial, by each attorney's hourly rate. The numbers used are as follows: (1) Schiffley: 185 hours at \$280/hour (\$51,800.00); (2) Meece: 286.25 hours at \$180/hour (\$51,525.00); (3) Johnson: 116.25 at \$235/hour (\$27,318.75). Thus, the three lead counsel billed 587.5 hours for a total of \$130,643.75, which is approxi-

mately 80% of the total amount sought for that period.

[6] A total award of \$130,643.75 for attorneys' fees is appropriate in this case in light of the *Kimbrell's* factors that apply. Preparation for the trial with respect to this particular defendant involved several pre-trial motions, several raising complex factual questions, and the fast pace of this docket required an intense dedication of attorney time to the litigation. (Factors 1, 2 and 7). Moreover, the Court notes that plaintiffs' counsel took the case on a contingent fee basis, which means that given the amount of the judgment, they will be made whole for all work expended in this case. We also point out that the actual trial was relatively short, partly as a result of the defendant's having so little evidence to present. Finally, in light of the damages awarded, \$130,643.75 is not an unreasonably high attorneys' fee. (Factor 8 and 12).

With respect to costs, the Court finds it appropriate, for the same reasons discussed above, to award the plaintiffs the total amounts reflected only on the law firm's invoices dated March 26, 1998 (\$37,612.84) and April 9, 1998 (\$17,309.51), for a total award of \$54,922.35. This amount includes all costs incurred from February 23, 1998, to April 9, 1998.

IV. Conclusion

For the reasons stated in open court and in this Memorandum Opinion, BRFG's Motion for Declaration of Mistrial and Motion for a JNOV or in the Alternative a New Trial will be denied. In addition, plaintiffs' Motion of Trebled Damages and Attorneys' Fees will be denied as to the trebled damages and granted as to the attorneys' fees and costs, and the Court will award plaintiffs \$130,643.75 in attorneys' fees and \$54,922.25 in costs. An appropriate order will issue.

The Clerk is directed to forward copies of this Memorandum Opinion to counsel of record.

ORDER

For the reasons stated in an accompanying Memorandum Opinion, SRFG's Motion for Declaration of Mistrial and Motion for a JNOV or in the Alternative a New Trial are DENIED, and plaintiffs' Motion for Trebled Damages and Attorneys' Fees is GRANTED IN PART as to attorneys' fees and costs and DENIED as to trebled damages, and it is hereby.

ORDERED that plaintiffs be and are awarded \$130,643.75 in attorneys' fees and

\$54,922.35 in costs, for a total award of \$185,566.10.
The Clerk is directed to forward copies of this Order to counsel of record.

U.S. Court of Appeals
Federal Circuit

In re Rouffet

No. 97-1492

Decided July 13, 1998

PATENTS

1. Patentability/Validity — Obviousness — Combining references (§115.0905)

Claimed low orbit satellite communications system for mobile terminals, which addresses problem of minimizing "handover" of receiver from beam footprint of one transmitting satellite to that of another through use of multiple fan-shaped beams, is not *prima facie* obvious over combination of three prior art references, since critical reference that teaches use of fan-shaped beam to transmit from ground station to orbiting satellites does not specifically address handover minimization, and to extent it addresses handover problem at all, does so with orbit selection rather than beam shape, and since there is no reason one of ordinary skill in art, seeking to minimize handovers due to satellite motion, would have been motivated to combine this reference with remaining references in manner that would render claimed invention obvious.

2. Patentability/Validity — Obviousness — Person of ordinary skill in art (§115.0902)

Patentability/Validity — Obviousness — Combining references (§115.0905)

Three possible sources for motivation to combine prior art references in manner that would render claimed invention obvious are nature of problem to be solved, teachings of prior art, and knowledge of persons of ordinary skill in art; high level of skill in field of art cannot be relied upon to provide necessary motivation absent explanation of what specific understanding or technical principle, within knowledge one of ordinary skill in art, would have suggested combination, since, if such rote invocation could suffice to supply motivation to combine, more sophisticated scientific fields would rarely, if ever, experience patentable technical advance.

3. Patentability/Validity — Obviousness — Person of ordinary skill in art (§115.0902)

Patentability/Validity — Obviousness — Combining references (§115.0905)

Claimed low orbit satellite communications system for mobile terminals is not *prima facie* obvious over combination of two prior art references, even though person possessing high level of skill characteristic of this field would know to account for differences between claimed invention and prior art combination, since high level of skill in art, without more, cannot supply required motivation to combine references, and does not overcome absence of any actual suggestion to combine; obviousness rejection will not be upheld, even where skill in art is high, absent specific identification of principle, known to one of ordinary skill, that suggests claimed combination.

Appeal from the U.S. Patent and Trademark Office, Board of Patent Appeals and Interferences.

Patent application of Denis Rouffet, Yannick Tanguy, and Frédéric Berthault, serial no. 07/888,791, filed May 27, 1992. From decision upholding examiner's final rejection of application as obvious under 35 USC 103(a), applicants appeal. *Reversed*.

Richard C. Turner and Grant K. Rowan, of Sughrue, Mion, Zinn, Macpeak & Seas, Washington, D.C., for appellants.

David J. Bull Jr., associate solicitor, Nancy J. Linck, solicitor, Albin F. Drost, deputy solicitor, Craig R. Kaufman, associate solicitor, and Scott A. Chambers, associate solicitor, U.S. Patent and Trademark Office, Arlington, Va., for appellees.

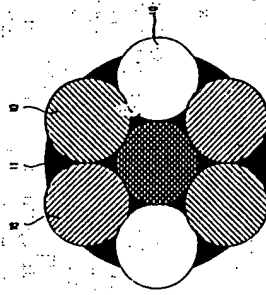
Before Plager, circuit judge, Archer, senior circuit judge, and Rader, circuit judge.

Rader, J.

Denis Rouffet, Yannick Tanguy, and Frédéric Berthault (collectively, Rouffet) submitted application 07/888,791 (the application) on May 27, 1992. The Board of Patent Appeals and Interferences (the Board) affirmed final rejection of the application as obvious under 35 U.S.C. § 103(a). See *Ex parte Rouffet*, No. 96-1553 (Bd. Pat. App. & Int. Apr. 16, 1997). Because the Board reversibly erred in identifying a motivation to combine the references, this court reverses.

Satellites in a geosynchronous or geostationary orbit remain over the same point on the Earth's surface. Their constant position above the Earth's surface facilitates communications. These satellites project a number of beams to the Earth. Each beam transmits to its area of coverage, or footprint, on the Earth's surface. In order to provide complete coverage, adjacent footprints overlap slightly and therefore must use different frequencies to avoid interference. However, two or more non-overlapping footprints can use the same set of frequencies in order to use efficiently the limited radio spectrum. Figure 1 from the application shows the coverage of a portion of the Earth's surface provided by multiple cone-shaped beams:

FIG. 1

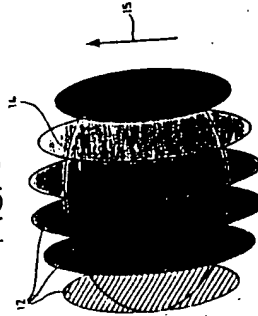


Frequency reuse techniques, however, have a limited ability to compensate for congestion in geostationary orbits. To alleviate the orbit congestion problem, new telecommunications systems use a network of satellites in low Earth orbit. When viewed from a fixed point on the Earth's surface, such satellites do not remain stationary but move overhead. A satellite's motion as it transmits a plurality of cone-shaped beams creates a new problem. The satellite's movement causes a receiver on the Earth's surface to move from the footprint of one beam into a second beam transmitted by the same satellite. Eventually, the satellite's motion causes the receiver to move from the footprint of a beam transmitted by one satellite into the footprint of a beam transmitted by a second satellite. Each switch from one footprint to another creates a "handover" event analogous to that which occurs when a traditional cellular phone travels from one cell to another. Handovers are undesirable because

they can cause interruptions in signal transmission and reception.

Rouffet's application discloses technology to reduce the number of handovers between beams transmitted by the same satellite. In particular, Rouffet eliminates handovers caused solely by the satellite's motion. To accomplish this goal, Rouffet changes the shape of the beam transmitted by the satellite's antenna. Rouffet's satellites transmit fan-shaped beams. A fan beam has an elliptical footprint. Rouffet aligns the long axis of his beams parallel to the direction of the satellite's motion across the Earth's surface. By elongating the beam's footprint in the direction of satellite travel, Rouffet's invention ensures that a fixed point on the Earth's surface likely will remain within a single footprint until it is necessary to switch to another satellite. Because Rouffet's invention does not address handovers caused by the motion of the receiver across the Earth's surface, his arrangement reduces, but does not eliminate, handovers. Figure 3 from the application shows the footprints 12 from six beams aligned in the direction of satellite motion 15:

FIG. 3



The application contains ten claims that stand or fall as a group. Claim 1 is representative:

A low orbit satellite communications system for mobile terminals, wherein the communications antenna system of each satellite provides isoflux coverage made up of a plurality of fan beams that are elongate in the travel direction of the satellite. The examiner initially rejected Rouffet's claims as unpatentable over U.S. Pat. No. 5,199,672 (King) and a conference report 4,872,015 (Rosen) and a conference report entitled "A Novel Non-Geostationary Satellite Communications System," *Conference Record, International Conference on Communications*, 1981 (Ruddy). On appeal to the Board, the examiner added an alterna-

tive ground for rejection, holding that the claims were obvious over U.S. Pat. No. 5,394,561 (Freeburg) in view of U.S. Pat. No. 5,170,485 (Levine).

On April 16, 1997, the Board issued its decision. Because Rouffet had specified that the claims would stand or fall as a group based on the patentability of claim 1, the Board limited its opinion to that claim. The Board unanimously determined that the examiner had properly rejected claim 1 as obvious over King in view of Rosen and Ruddy. The Board, on a split vote, also affirmed the rejection over Freeburg in view of Levine.

II

To reject claims in an application under section 103, an examiner must show an un rebutted *prima facie* case of obviousness. See *In re Deuel*, 51 F.3d 1552, 1557, 34 USPQ2d 1210, 1214 (Fed. Cir. 1995). In the absence of a proper *prima facie* case of obviousness, an applicant who complies with the other statutory requirements is entitled to a patent. See *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). On appeal to the Board, an applicant can overcome a rejection by showing insufficient evidence of *prima facie* obviousness or by rebutting the *prima facie* case with evidence of secondary indicia of nonobviousness. See *id.*

While this court reviews the Board's determination in light of the entire record, an applicant may specifically challenge an obviousness rejection by showing that the Board reached an incorrect conclusion of obviousness or that the Board based its obviousness determination on incorrect factual predicates. This court reviews the ultimate determination of obviousness as a question of law. See *In re Lueders*, 111 F.3d 1569, 1571, 42 USPQ2d 1481, 1482 (Fed. Cir. 1997). The factual predicates underlying an obviousness determination include the scope and content of the prior art, the differences between the prior art and the claimed invention, and the level of ordinary skill in the art. See *Monarch Knitting Mach. Corp. v. Sulzer Morat GmbH*, 139 F.3d 877, 881, 45 USPQ2d 1977, 1981 (Fed. Cir. 1998). This court reviews the Board's factual findings for clear error. See *In re Zurko*, 142 F.3d 1447, 1449, 46 USPQ2d 1691, 1693 (Fed. Cir. 1998) (in banc); *Lueders*, 111 F.3d at 1571-72. "A finding is clearly erroneous when, although there is evidence to support it, the reviewing court on the entire evidence is left with the definite and firm conviction that a mistake has been committed." *In re Graves*, 69 F.3d 1147, 1151, 36 USPQ2d

1697, 1700 (Fed. Cir. 1995) (quoting *United States v. United States Gypsum Co.*, 333 U.S. 364, 395 [76 USPQ 430] (1948)).

The secondary considerations are also essential components of the obviousness determination. See *In re Emert*, 124 F.3d 1458, 1462, 44 USPQ2d 1149, 1153 (Fed. Cir. 1997) ("Without Emert providing rebuttal evidence, this *prima facie* case of obviousness must stand."). This objective evidence of nonobviousness includes copying, long felt but unsolved need, failure of others, see *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 [148 USPQ 459] (1966), commercial success, see *In re Huang*, 100 F.3d 135, 139-40, 40 USPQ2d 1685, 1689-90 (Fed. Cir. 1996), unexpected results created by the claimed invention, unexpected properties of the claimed invention, see *In re Mayne*, 104 F.3d 1339, 1342, 41 USPQ2d 1451, 1454 (Fed. Cir. 1997); *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936-37 (Fed. Cir. 1990), licenses showing industry respect for the invention, see *Arkie Lures, Inc. v. Gene Larwe Tackle, Inc.*, 119 F.3d 953, 957, 43 USPQ2d 1294, 1297 (Fed. Cir. 1997); *Pentec, Inc. v. Graphic Controls Corp.*, 776 F.2d 309, 316, 227 USPQ 766, 771 (Fed. Cir. 1985), and skepticism of skilled artisans before the invention, see *In re Dow Chem. Co.*, 837 F.2d 469, 473, 5 USPQ2d 1529, 1532 (Fed. Cir. 1988). The Board must consider all of the applicant's evidence. See *Oetiker*, 977 F.2d at 1445 ("An observation by the Board that the examiner made a *prima facie* case is not improper, as long as the ultimate determination of patentability is made on the entire record."); *In re Piazecski*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984). The court reviews factual conclusions drawn from this evidence for clear error. Whether the evidence presented suffices to rebut the *prima facie* case is part of the ultimate conclusion of obviousness and is therefore a question of law.

When a rejection depends on a combination of prior art references, there must be some teaching, suggestion, or motivation to combine the references. See *In re Geiger*, 815 F.2d 686, 688, 2 USPQ2d 1276, 1278 (Fed. Cir. 1987). Although the suggestion to combine references may flow from the nature of the problem, see *Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 1573, 37 USPQ2d 1626, 1630 (Fed. Cir. 1996), the suggestion more often comes from the teachings of the pertinent references, see *In re Serraker*, 702 F.2d 989, 994, 217 USPQ 1, 5 (Fed. Cir. 1983), or from the ordinary knowledge of those skilled in the art that certain references are of special importance in a particular field, see *Pro-Mold*, 75

F.3d at 1573 (citing *Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 297 n.24, 227 USPQ 657, 667 n.24 (Fed. Cir. 1985)). Therefore, "[w]hen determining the patentability of a claimed invention which combines two known elements, 'the question is whether there is something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination.'" See *In re Bear-tie*, 974 F.2d 1309, 1311-12, 24 USPQ2d 1040, 1042 (Fed. Cir. 1992) (quoting *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 1462, 221 USPQ 481, 488 (Fed. Cir. 1984)).

III

The parties agree that the five references asserted by the examiner are in the same field of endeavor as the invention. The parties also agree that the pertinent level of skill in the art — design of satellite communications systems — is high. On appeal, Rouffet asserts that the examiner and the Board erred by improperly combining references to render the claimed invention obvious.

The Combination of King, Rosen, and Ruddy

The Board first affirmed the rejection of Rouffet's claims over a combination of King, Rosen, and Ruddy. King discloses a system for launching a plurality of satellites into low Earth orbits from a single launch vehicle. Rosen teaches a geostationary satellite that uses a plurality of fan beams with their long axes oriented in an east-west direction to communicate with mobile and fixed terminals on the Earth.

The final, and most important, reference in this combination is Ruddy. Ruddy describes a television broadcast system that uses a series of satellites to retransmit signals sent from a ground station over a wide area. Rather than using a geostationary orbit, Ruddy teaches the use of a series of satellites in Molniya orbits. A satellite in a Molniya orbit always follows the same path through the sky when viewed from a fixed point on the ground. Viewed from the Earth, the orbital path includes a narrow, elliptical apogee loop. In order to transmit to these moving satellites from a ground station, Ruddy uses a fan beam with a long axis aligned with the long axis of the orbit's apogee loop. This alignment places the entire apogee loop within the footprint of the beam and eliminates the need for the ground station's antenna to track the satellite's motion around the apogee loop. Ruddy further teaches orbit param-

eters and spacing of multiple satellites to ensure that a satellite is always in the loop to receive and rebroadcast signals from the Earth station.

King and Rosen together teach the use of a network of satellites in low Earth orbit. Thus, Ruddy becomes the piece of the prior art mosaic that shows, in the reading of the Board, the use of "a plurality of fan beams that are elongate in the travel direction of the satellite." Ruddy, however, is different from the claimed invention in several respects. Specifically, the application claims the projection of multiple elliptical fan-shaped footprints from the satellite to the ground. See Claim 1, *supra*, see also Application at 6, lines 9-11 ("In addition, in this system, the geometrical shape of the beams 12 is changed: instead of being circular they are now elongate ellipses."). The application's written description further teaches that the invention's fan-shaped satellite beams will minimize handovers. See *id.* at lines 11-16 ("This considerably increases call durations between handovers.").

In contrast, Ruddy teaches that a ground station may use a single fan-shaped beam to transmit to a satellite in a unique Molniya orbit. The ground station transmits a beam into which a series of satellites in Molniya orbits will successively enter. At least two differences are evident: the application teaches projection of multiple beams from a satellite to the Earth, while Ruddy teaches projection of a single beam from the Earth to satellites. Moreover, to the extent Ruddy contains a teaching about handovers, its teachings focus on use of the unique Molniya orbit to ensure that a satellite always falls within the beam transmitted by the ground station.

These differences suggest some difficulty in showing a *prima facie* case of obviousness. The Board, however, specifically found that artisans of ordinary skill in this field of art would know to shift the frame of reference from a ground station following a satellite to a satellite transmitting to the ground. According proper deference to the Board's finding of a lofty skill level for ordinary artisans in this field, this court discerns no clear error in the Board's conclusion that these differences would not preclude a finding of obviousness. While Ruddy does not expressly teach alignment of the fan beam with the apparent direction of the satellite's motion, this court perceives no clear error in the Board's determination that Ruddy would suggest such an alignment to one of skill in this art. Therefore, the Board did not err in finding that the combination of King, Rosen, and Ruddy contains all of the elements claimed in Rouffet's application.

[1] However, the Board reversibly erred in determining that one of skill in the art would have been motivated to combine these references in a manner that rendered the claimed invention obvious. Indeed, the Board did not identify any motivation to choose these references for combination. Ruddy does not specifically address handover minimization. To the extent that Ruddy at all addresses handovers due to satellite motion, it addresses this subject through the selection of orbital parameters. Ruddy does not teach the choice of a particular shape and alignment of the beam projected by the satellite. Thus Ruddy addresses the handover problem with an orbit selection, not a beam shape. The Board provides no reasons that one of ordinary skill in this art, seeking to minimize handovers due to satellite motion, would combine Ruddy with Rosen and King in a manner that would render the claimed invention obvious. Obviousness is determined from the vantage point of a hypothetical person having ordinary skill in the art to which the patent pertains. See 35 U.S.C. § 103(a). This legal construct is akin to the "reasonable person" used as a reference in negligence determinations. The legal construct also presumes that all prior art references in the field of the invention are available to this hypothetical skilled artisan. See *In re Carlson*, 983 F.2d 1032, 1038, 35 USPQ2d 1207, 1211 (Fed. Cir. 1993).

As this court has stated, "virtually all [inventions] are combinations of old elements." *Environmental Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693, 698, 218 USPQ 865, 870 (Fed. Cir. 1983); see also *Richdel, Inc. v. Sunspool Corp.*, 714 F.2d 1573, 1579-80, 219 USPQ 8, 12 (Fed. Cir. 1983) ("Most, if not all, inventions are combinations and, mostly of old elements."). Therefore an examiner may often find every element of a claimed invention in the prior art. If identification of each claimed element in the prior art were sufficient to negate patentability, very few patents would ever issue. Furthermore, rejecting patents solely by finding prior art corollaries for the claimed elements would permit an examiner to use the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention. Such an approach would be "an illogical and inappropriate process by which to determine patentability." *Sensorics, Inc. v. Aerosonic Corp.*, 81 F.3d 1566, 1570, 38 USPQ2d 1551, 1554 (Fed. Cir. 1996).

To prevent the use of hindsight based on the invention to defeat patentability of the invention, this court requires the examiner to

verses the Board's decision upholding the rejection of Rouffet's claims. In light of this disposition, Rouffet's pending motion to remand the case to the Board for further consideration is denied as moot.

COSTS

Each party shall bear its own costs.

REVERSED.

U.S. Court of Appeals Federal Circuit

Champagne Louis Roederer S.A. v. Delicato Vineyards

No. 98-1032

Decided July 16, 1998

TRADEMARKS AND UNFAIR TRADE PRACTICES

1. Infringement; conflicts between marks — Likelihood of confusion — Particular marks — Confusion not likely (\$335.0304.05)

Infringement; conflicts between marks — Tests generally (\$335.06)

Trademark Trial and Appeal Board did not err in dismissing opposition proceeding on ground that applicant's "Crystal Creek" mark for wine and opposer's "Cristal" marks for champagne are dissimilar with respect to appearance, sound, significance, and commercial impression, since board did not err in relying solely on dissimilarity of marks in evaluating likelihood of confusion, since single factor may be dispositive in likelihood of confusion analysis, especially when that factor is dissimilarity of marks, and since no instances of clear error regarding board's findings of fact as to dissimilarities of marks have been demonstrated.

Appeal from the U.S. Patent and Trademark Office, Trademark Trial and Appeal Board.

Proceeding (Opposition No. 80,932) brought by Champagne Louis Roederer S.A. in opposition to application filed by Delicato Vineyards to register mark "Crystal Creek" for wine. From dismissal of opposition proceeding, opposer appeals. Affirmed: Michel, J., concurring in separate opinion.

[3] This court does, however, discern reversible error in the Board's identification of a motivation to combine Levine and Freeburg. In determining that one of skill in the art would have had motivation to combine Levine and Freeburg, the Board noted that "[t]he level of skill in the art is very high." As noted before, this observation alone cannot supply the required suggestion to combine these references. The Board posits that the high level of skill in the art overcomes the absence of any actual suggestion that one could select part of the teachings of Levine for combination with the satellite system disclosed by Freeburg.

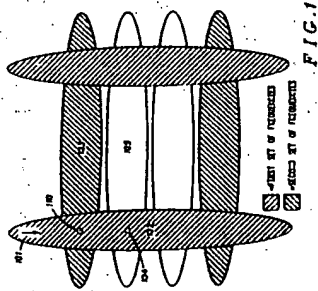
As noted above, the suggestion to combine requirement is a safeguard against the use of hindsight combinations to negate patentability. While the skill level is a component of the inquiry for a suggestion to combine, a lofty level of skill alone does not suffice to supply a motivation to combine. Otherwise a high level of ordinary skill in an art field would almost always preclude patentable inventions. As this court has often noted, invention itself is the process of combining prior art in a nonobvious manner. See, e.g., *Richdel*, 714 F.2d at 1579; *Environmental Designs*, 713 F.2d at 698. Therefore, even when the level of skill in the art is high, the Board must identify specifically the principle, known to one of ordinary skill, that suggests the claimed combination. Cf. *Gechter v. Davidson*, 116 F.3d 1454, 43 USPQ2d 1030 (Fed. Cir. 1997) (explaining that the Board's opinion must describe the basis for its decision). In other words, the Board must explain the reasons one of ordinary skill in the art would have been motivated to select the references and to combine them to render the claimed invention obvious.

The Board's naked invocation of skill in the art to supply a suggestion to combine the references cited in this case is therefore clearly erroneous. Absent any proper motivation to combine part of Levine's teachings with Freeburg's satellite system, the rejection of Rouffet's claim over these references was improper and is reversed.

IV

The Board reversibly erred in determining that there was a motivation to combine either the teachings of King, Rosen, and Ruddy or of Freeburg and Levine in a manner that would render the claimed invention obvious. Because this predicate was missing in each case, the Board did not properly show that these references render the claimed invention obvious. Therefore this court re-

to transmit from the satellite to both fixed and mobile Earth stations. Levine teaches an Earth-based cellular radio system that uses fan beams broadcast from antenna towers. Levine's elliptical footprints are aligned with the road grid. To increase the capacity of traditional ground-based systems through frequency reuse techniques, Levine teaches the use of antennas that broadcast signals with smaller footprints than the prior art system. Thus, Levine actually increases the number of overlap regions between cells and, hence, the number of potential handovers. Figure 1 of the Levine patent illustrates its alignment of beam footprints:



As a mobile unit (e.g., a driver using a car phone) moves through a succession of overlapping zones, Levine uses selection algorithms to determine which of the cells is aligned with the travel direction of the mobile unit. These algorithms then select this cell for use while continually monitoring intersecting cells in the event that the mobile unit changes direction.

Once again, this court notes significant differences between the teachings of the application and the Levine-Freeburg combination. The critical Levine reference again involves a beam from an Earth station without any reference to the "travel direction of [a] satellite." Moreover, Levine actually multiplies the number of potential handovers and then uses software to sort out the necessary handovers from the unnecessary. However, the Board explains the reasons that one possessing the lofty skills characteristic of this field would know to account for the differences between the claimed invention and the prior art combination. This court discerns no clear error in that reliance on the considerable skills in this field.

show a motivation to combine the references that create the case of obviousness. In other words, the examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed.

[2] This court has identified three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art. In this case, the Board relied upon none of these. Rather, just as it relied on the high level of skill in the art to overcome the differences between the claimed invention and the selected elements in the references, it relied upon the high level of skill in the art to provide the necessary motivation. The Board did not, however, explain what specific understanding or technological principle within the knowledge of one of ordinary skill in the art would have suggested the combination. Instead, the Board merely invoked the high level of skill in the field of art. If such a rote invocation could suffice to supply a motivation to combine, the more sophisticated scientific fields would rarely, if ever, experience a patentable technical advance. Instead, in a complex scientific field, the Board could routinely identify the prior art elements in an application, invoke the lofty level of skill, and rest its case for rejection. To counter this potential weakness in the obviousness construct, the suggestion to combine requirement stands as a critical safeguard against hindsight analysis and rote application of the legal test for obviousness.

Because the Board did not explain the specific understanding or principle within the knowledge of a skilled artisan that would motivate one with no knowledge of Rouffet's invention to make the combination, this court infers that the examiner selected these references with the assistance of hindsight. This court forbids the use of hindsight in the selection of references that comprise the case of obviousness. See *In re Gorman*, 933 F.2d 982, 986, 18 USPQ2d 1885, 1888 (Fed. Cir. 1991). Lacking a motivation to combine references, the Board did not show a proper *prima facie* case of obviousness. This court reverses the rejection over the combination of King, Rosen, and Ruddy.

The Combination of Freeburg and Levine

Freeburg teaches a cellular radiotelephone system based on a constellation of low Earth orbit satellites that use conical beams

THE PUBLIC INTEREST

The final factor to consider when assessing the desirability of injunctive relief is the public interest. In a case such as the present, public policy concerns weigh in favor of preliminary injunctive relief in order to halt confusion in the marketplace. *Worthington Foods, Inc.*, 732 F.Supp. 1463. In the present case, confusion has been shown to exist regarding the Defendants' use of the words "Moondog Coronation Ball." Omni-America has logged numerous telephone calls from its radio listeners who are confused as to who is conducting the "Moondog Coronation Ball." (See Exhibit Q) It has also received letters and facsimiles from listeners who are confused as to who is conducting the "Moondog Coronation Ball." (See Exhibits I, Y and Z).

This Court finds that Omni-America has shown a likelihood of confusion. Thus, this Court finds that injunctive relief would be in the public's best interest.

The Court has adopted in part the Findings of Fact and Conclusion of Law submitted by Plaintiff.

FINDINGS OF FACT

Plaintiff, Omni-America holds a certificate of registration for Moondog Coronation Ball II that was issued in 1986.

Omni-America acquired the registration for Moondog Coronation Ball II through assignment.

The first Moondog Coronation Ball was held in 1952 in Cleveland and is reputed to be the first rock and roll concert.

The name Moondog Coronation Ball was not used by anyone in connection with a concert or other event until 1986.

In 1986, the radio station WMMS-FM decided to hold a concert to rally support for bringing the Rock and Roll Hall of Fame to Cleveland.

John Gorman, who worked at WMMS-FM at that time, conceived the idea to call the concert the Moondog Coronation Ball and feature some performers from the oldies rock era.

WMMS-FM was owned by Malrite Communications in 1986 and that Malrite registered the name Moondog Coronation Ball II as a service mark with the Ohio Secretary of State in order to protect their rights to the Mark.

WMMS-FM had plans to hold the next Moondog Coronation Ball when the Rock and Roll Hall of Fame was opened in Cleveland.

The next concert called the Moondog Coronation Ball was held on March 21, 1992. The concert was to commemorate the 40th anniversary of the original concert and was promoted through WMJI-FM.

Canterbury agreed to produce the concert for WMJI and the parties entered into a contract for the production of the Moondog Coronation Ball.

WMJI-FM promoted and hosted the concert. Canterbury contracted with the artist, sold tickets, and collected the proceeds from the ticket sales. Both WMJI-FM and Canterbury were active in choosing the talent for the show and deciding the logistics for the show.

WMJI-FM held the Moondog Coronation Ball again in 1993, 1994, and 1995. Canterbury was the production company each of those years.

WMJI-FM was using the Mark Moondog Coronation Ball with the consent and approval of the owner of the registration for the Mark.

Omni-America acquired WMJI-FM in 1994, around the same time that it acquired the assignment of the registration for the Mark.

In 1996, Canterbury knew that Omni-America owned the registration for Moondog Coronation Ball II.

Canterbury and WDOK-FM/WRMR-AM are using the service mark Moondog Coronation Ball in connection with an oldies concert scheduled to take place in Cleveland on March 23, 1996.

Numerous individuals have called WMJI-FM and expressed confusion over the origin and sponsorship of the concert scheduled for March 23, 1996.

CONCLUSION

The Rights to the service mark are acquired through use. A registration is evidence that the registrant had first use of the Mark; the registrant asserts exclusive rights to the service mark; and, the registrant has put the public on notice of its assertion of exclusive rights to the service mark. In the present case, Omni-America holds a fanciful service mark. This is a strong service mark. Encroachment on a strong service mark tends to produce the greatest likelihood of confusion. An intentional use of a fanciful service mark for an identical service in the same market area, combined with actual confusion, establishes likelihood of confusion.

In the case at bar, the likelihood of confusion with the service mark Moondog Coronation

Ball may result in irreparable harm for purposes of entitlement to a Preliminary Injunction. The potential harm to the apparent infringer, the Defendants, does not weigh against the granting of injunctive relief. Further, the public interest is served by a Preliminary Injunction that prevents consumer confusion. By promoting a concert in Ohio using Moondog Coronation Ball, the Defendants have used Plaintiff's service mark without Plaintiff's permission in a way that is infringing Plaintiff's rights in the service mark. Therefore, Omni-America is entitled to a Preliminary Injunction.

IT IS THEREFORE ORDERED that the Defendants Street Gold Records, Ltd. dba Canterbury Productions/Farag Music BM1, the Moondog Coronation Ball Corp., and Independent Group Limited Partnership, their agents, and any other persons associated with or acting in concert with them, including but not limited to, Henry Farag and Canterbury Productions, Inc., be and hereby are restrained and enjoined from using the service mark "Moondog Coronation Ball" or any similar service mark in connection with any concert or other event. Use of a Mark that includes the words "Moondog" and "Coronation" in connection with a concert or other event will be considered to be use of a similar mark.

Specifically, Defendants, their agents, and any other persons associated with or acting in concert with them, including, but not limited to Mr. Henry Farag, Mr. Omar Farag, and Canterbury Productions, Inc. are enjoined from:

- 1) selling, issuing, or releasing any tickets bearing the service mark Moondog Coronation Ball or any similar mark;
- 2) issuing any written or oral promotion of the concert scheduled for March 23, 1996, or any other concert or event produced by Defendants, using the service mark Moondog Coronation Ball or any similar service mark;
- 3) making any representations that the concert scheduled for March 23, 1996, or any other concert or event produced by Defendants, is the Moondog Coronation Ball.

CONCLUSION

Based upon the foregoing reasons, Plaintiff, Omni-America's Motion for a Preliminary Injunction is GRANTED. All matters pertaining to damages, and any issues relating to the expiration of the service mark that expires on March 10, 1996, will be addressed at the Permanent Injunction Hearing which

will be held at a later date to be determined by this Court.

IT IS SO ORDERED.

U.S. Court of Appeals
Federal Circuit

Sensonics Inc. v. Aerosonic Corp.

Nos. 95-1058, -1062, -1098

Decided April 24, 1996

PATENTS

1. Patentability/Validity — Obviousness — Combining references (§115.0905)

Claimed vibrator for aircraft instruments is not obvious in view of prior art references considered alone or in combination, since there is no teaching or suggestion whereby person of ordinary skill in art would have been led to select particular mechanical and electrical structures and concepts and combine them as did inventor, and since drawing on hindsight knowledge of patented invention, when prior art does not contain or suggest that knowledge, is improper use of invention as template for its own reconstruction.

2. Infringement — Defenses — Fraud or unclean hands (§120.1111)

Failure to disclose inventor's prior patent during prosecution of patent in suit did not constitute inequitable conduct, since defendant's failure to mention prior patent in its request for re-examination of patent in suit weighs heavily against its contention that prior patent was material prior art, and since there is no evidence of culpable intent.

3. Infringement — Willful (§120.16)

Federal district court did not clearly err by concluding that defendants did not willfully infringe vibrator patent in suit, even though opinion of defendants' counsel does not mention defendants' copying and other objective indicia of unobviousness, and infringement continued even after validity of patent was confirmed on re-examination, since issue of willfulness raises questions of credibility as well as weight, and findings thereon are not readily reversed, and since infringement occurred four months prior to patent's expiration.

REMEDIES

4. Monetary — Damages — Patents — Lost profits (\$510,0507.05)

Infringement defendant's failure to retain production records during litigation gives rise to strong inference that such records would have been unfavorable to defendant, since it is not necessary to establish bad faith in order to draw adverse inference from "purposeful" action, and since it is appropriate that doubt be resolved against defendant in view of clear duty to keep and preserve records of acts for which infringement had been charged; federal district court's determination that 7,347 infringing units had been produced by defendant, based on extrapolation from production records available for final six months of patent's term, represents best available reconstruction of infringing activity, but court's reduction of extrapolated production by 33 percent to account for device repair or inefficiency in production is not supported by evidence.

5. Monetary — Damages — Patents — Increased damages (\$510,0507.07)

Federal district court did not abuse its discretion by declining to award enhanced damages for patent infringement, since enhanced damages are punitive rather than compensatory, and depend on showing of willful infringement or other indicium of bad faith warranting punitive damages, and since court's finding that infringement was not willful was not clear error.

6. Monetary — Damages — Prejudgment interest (\$510,0511)

Prejudgment interest in patent cases is withheld only under exceptional circumstances, and denial of such award based on calculation difficulties alone is error; prejudgment interest award is therefore warranted in present patent action in which there is no circumstance that would make such award unfair or inappropriate.

7. Monetary — Attorneys' fees; costs — Patents — Exceptional case (\$510,0905.03)

Bad faith and willful infringement are not only criteria whereby case may be deemed "exceptional," since litigation misconduct and unprofessional behavior are relevant to award of attorneys' fees; remand of present case for determination of whether there was bad faith or vexatious behavior is therefore warranted, even though federal district court did not err in concluding that defendants did not willfully infringe.

PATENTS

8. Infringement — Inducement (\$120.15)

REMEDIES

Monetary — Damages — Personal liability of corporate officials (\$510,0513)

Federal district court properly concluded that individual defendant who was founder, owner, president, chief executive officer, and chief of engineering of infringing corporation is liable for inducement to infringe, and is jointly and severally liable for amount of judgment, since weight of evidence is strongly contrary to defendant's testimony that he was without authority to control or discontinue production of infringing device after becoming aware of plaintiff's patent rights and since court therefore did not clearly err in determining that testimony was not credible.

Particular patents — Electrical — Tapping device

3,863,114, DeMayo, tapping device for generating periodic mechanical impulses, ruling that patent is enforceable, not invalid, and infringed is affirmed.

Appeal from the U.S. District Court for the Middle District of Florida, Merhige, J. Action by Sensonics Inc. against Aerosonic Corp. and Herbert J. Frank for patent infringement. From ruling that patent claims are enforceable, not invalid, and infringed, and that defendant Herbert J. Frank is personally liable for inducing infringement, defendants appeal. Plaintiff cross-appeals measure of damages and denial of enhanced damages and attorneys' fees. Affirmed in part, modified and reversed in part, and remanded.

Daniel P. Burke, of Galgano & Burke, Hauppauge, N.Y., for plaintiff/cross-appellant.

Robert E. Greenstien, of Honigman, Miller, Schwartz & Cohn, West Palm Beach, Fla.; Anne E. Brookes, John T. Klug, Louis K. Bonham, and John G. Flaum, of Honigman, Miller, Schwartz & Cohn, Houston, Texas; Robert W. Boos and Kevin M. Gilhool, of Honigman, Miller, Schwartz & Cohn, Tampa, Fla., for defendant-appellant Aerosonic Corp.

Sybil Meloy, Lisa S. Mankofsky, and Patricia D. Granados, of Foley & Lardner, Washington, D.C., for defendant-appellant Herbert J. Frank.

Before Newman, circuit judge, Bennett, senior circuit judge, and Bryson, circuit judge.

Newman, J.

This consolidated appeal and cross-appeal concern United States Patent No. 3,863,114 (the '114 patent) owned by Sensonics, Inc. The defendants, Aerosonic Corp. and Herbert J. Frank, each appeals certain aspects of the judgment of the United States District Court for the Middle District of Florida. Aerosonic appeals the district court's ruling that the '114 patent is valid and enforceable, and also appeals the ruling of infringement as to some of the patent claims but not as to others. Mr. Frank appeals the ruling that he is personally liable for inducement to infringe the Sensonics patent. Sensonics cross-appeals the measure of damages, and the court's denial of enhanced damages and attorney fees.

THE PATENTED INVENTION

The '114 patent is for a "Tapping Device for Generating Periodic Mechanical Pulses," inventor John F. DeMayo. Mr. DeMayo is a founder and officer of Sensonics. The tapping device, also called a "vibrator," is used primarily with aircraft instruments having moving indicators. Mechanical pulses, that is, taps, gently vibrate the moving parts in order to free them of the effects of static friction, permitting the indicator to move freely and thus with greater accuracy and reliability. Such devices require accurate and reliable operation for extended periods of time and over wide temperature and voltage ranges. They require careful control of the strength of the vibration pulses in order to avoid causing errors in or requiring recalibration of the aircraft instrument.

The invention claimed in the '114 patent is an electromagnet vibrator that is easier to manufacture, more accurate, easier to adjust, and less expensive than prior devices. Its structure of a unitary base with integrally formed anvil and armature support eliminates the welding and soldering steps of earlier devices, and also assured a true and consistent path for the magnetic flux. Another advantageous structural component is the adjustment element for the strength of the vibration pulses, in the form of a screw which extends through the armature to the magnetic core. The head of the screw provides the stop for the moving armature, and thus adjustment of the screw enables ready adjust-

ment of the mechanical pulses without removing the device from its casing, a disadvantage of prior vibrators.

It was not disputed that Aerosonic copied the Sensonics device in complete detail, and replaced the vibrating-reed design of the vibrator that Aerosonic was then making commercially. Mr. Frank and other witnesses testified that the vibrating-reed design was hard to manufacture, had an unacceptably high failure rate after installation, and was deficient in that it did not allow adjustment of the strength of the mechanical pulses. The superiority of the Sensonics device in accuracy, reliability, and cost, was undisputed.

PATENT VALIDITY

Aerosonic raised the defense of patent invalidity based on obviousness in terms of 35 U.S.C. § 103. The principal prior art at trial was an earlier invention of Mr. DeMayo, described in United States Patent No. 3,507,339 (the '339 patent). This patent was not cited as a reference during prosecution of the application that led to the '114 patent.

Mr. DeMayo testified that the '339 patent represented an earlier effort to make an improved mechanical vibrator. There was evidence that the '339 design had some advantages over prior devices, but that its shortcomings included manufacturing complexity, increased size, multiple components, difficulty of assembly, difficulty of adjustment, and too high a failure rate. Mr. DeMayo testified that he continued to work to solve these problems, and that after several additional years of effort he succeeded in doing so, with the vibrator that became the subject of the '114 patent. Although the '114 design and the '339 design have several similarities, there was evidence that the changes embodied in the '114 device achieved the simplicity and efficiency of manufacture, easy and accurate adjustment, compactness, quietness in operation, and reliability, that were inadequate in the '339 device.

The '339 device has a screw extending through the armature to the magnetic core. This screw is soldered into place in order to provide sufficient contact within the device to ensure magnetic flux, and is not usable to adjust the strength of the pulses. Although at trial Aerosonic argued that it was obvious to make the design change of an adjustable screw, the district court observed that this element of the '114 invention provided significant advantages and remedied deficiencies of prior devices. The pulse strength for the '339 device was only adjustable from below, and thus was not readily adjusted

¹ *Sensonics, Inc. v. Aerosonic Corp.*, Nos. 90-84-T-23A and 93-724-T-23A (M.D. Fla. Oct. 11 and Nov. 4, 1994).

after installation. In contrast, the '114 device could be readily adjusted not only during manufacture but also after assembly and after installation in the aircraft instrument. Although Aerosonic points to the simplicity of this adjustment mechanism, simplicity does not establish obviousness; indeed, simplicity may represent a significant and prior obvious advance over the complexity of prior devices.

The district court referred to the factual underpinnings of the determination of obviousness as set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966). Applying these criteria, the court discussed the testimony of Aerosonic's expert witness concerning the prior art. In addition to the '339 patent, the references relied on by Aerosonic were two patents on "telegaph-sounders" that were designed to make noise, a patent on a magnetically operated switch designed to absorb any shock created by contact of its armature and magnetic core, a patent on a relay for telephone lines to control secondary signals, and a patent for an automobile voltage regulator.

[1] The district court concluded that "[c]onsidered in their entirety, the references discussed by defendants' expert do not, in the court's view, lead one of ordinary skill in the art to the invention in suit." We agree that the references, alone or in combination, do not make obvious the '114 invention. There is no teaching or suggestion whereby a person of ordinary skill would have been led to select these mechanical and electrical structures and concepts and combine them as did DeMayo in the '114 invention. To draw on hindsight knowledge of the patented invention, when the prior art does not contain or suggest that knowledge, is to use the invention as a template for its own reconstruction — an illogical and inappropriate process by which to determine patentability. *W.L. Gore & Assoc. v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983). The invention must be viewed not after the blueprint has been drawn by the inventor, but as it would have been perceived in the state of the art that existed at the time the invention was made. *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1138, 227 USPQ 343, 347 (Fed. Cir. 1985).

The DeMayo '114 device was placed in commercial production by Sensonics. Aerosonic purchased fifty of the Sensonics vibrators from Budd Electronics Corp. An Aerosonic engineer testified that he was instructed by Mr. Frank to copy every detail of the Sensonics device, mentioning the number of turns of wire in the electromagnet and

the wire thickness, the tension of the spring, the posts supporting the armature, the unitary construction, the adjustable screw, etc. Mr. Frank and other employees of Aerosonic testified that there were no acceptable substitutes in the industry for the DeMayo '114 vibrator design.

Patent invalidity must be proved by clear and convincing evidence. The differences from the prior art that were shown at trial, the inadequacies of prior vibrators including DeMayo's earlier '339 design, and the technological advantages and commercial success of the '114 invention, well support the district court's conclusion that invalidity based on obviousness had not been proved. The decision that the patent is valid is affirmed.

PATENT ENFORCEABILITY

Aerosonic charged Sensonics with inequitable conduct before the Patent and Trademark Office because Sensonics did not bring to the attention of the patent examiner the DeMayo '339 patent. The district court held that the intent element of inequitable conduct had not been shown, and referred to the evidence presented at trial of Sensonics' good faith. The court also observed that Aerosonic's own patent counsel did not initially notice the relevance of the '339 patent, and that the '339 patent was not cited by Aerosonic in its reexamination request which was made during the litigation, and for which the litigation was stayed.

The district court found that Mr. DeMayo, who testified at trial, was not aware of a need to direct the examiner to the '339 patent. Mr. DeMayo also testified that he did not believe that the '339 patent was relevant to the '114 invention due to the differences and significant drawbacks in the '339 design; this testimony was supported by other evidence of the differences and drawbacks of the '339 and other prior devices.

[2] Aerosonic presses the argument that Sensonics did not seek reexamination of the '114 patent in light of the '339 patent until after expiration of the '114 patent. The '114 patent expired during the litigation. The district court observed that Aerosonic had earlier requested reexamination of the '114 patent, but that Aerosonic did not mention the '339 patent in its reexamination papers. Indeed, Aerosonic's omission of the '339 patent from its reexamination request weighs heavily against its argument that the '339 patent was material prior art.

The burden of proof of inequitable conduct was upon Aerosonic. The factual predicates of both (1) a withholding of material

prior art and (2) the intent thereby to deceive or mislead the patent examiner into allowing the claims, must be shown by clear and convincing evidence. *Kingsdown Medical Consultants, Ltd. v. Hollister*, 863 F.2d 867, 872, 9 USPQ2d 1384, 1389 (Fed. Cir. 1988), *cert. denied*, 490 U.S. 1067 (1989). There was no evidence of culpable intent. The totality of the evidence, including the evidence of good faith, well supports the district court's finding that intent to deceive or mislead the examiner was not shown.

Absent reversible error in the district court's findings and conclusion, we affirm the decision that there was not inequitable conduct before the patent office and that the '114 patent is enforceable.

WILLFUL INFRINGEMENT

Aerosonic stipulated that it infringed claims 2 and 7. The district court found that Aerosonic also infringed claims 3, 8 and 11. Aerosonic appeals this latter finding, advising that we need not reach claims 3, 8, and 11 should we sustain the validity of claims 2 or 7. Thus the only infringement issue is Sensonics's cross-appeal of the district court's finding that Aerosonic's infringement was not willful.

Sensonics states that the court clearly erred in failing to find that the infringement was willful, referring to Aerosonic's deliberate and meticulous copying of the Sensonics device, and Aerosonic's delay of eight months before consulting patent counsel after it received written notice of infringement, as evidence that Aerosonic willfully disregarded or did not intend to respect the law. The devices that Aerosonic purchased from Budd Electronics and copied were all labelled with Sensonics' name. Sensonics states that the opinion of counsel that Aerosonic produced at trial was "protective" and was not a complete analysis, and that Aerosonic's continuing infringement after actual notice of Sensonics' patent was with knowledge and disregard of Sensonics' legal rights. Indeed, the opinion of counsel makes no mention of Aerosonic's copying and other objective indicia of unobviousness, although precedent requires that these factors be considered. *See Stratoflex v. Aeroquip Corp.*, 713 F.2d 1530, 1539, 216 USPQ 871, 879 (Fed. Cir. 1983) (evidence of objective considerations must always be taken into account).

[3] Although the opinion of Aerosonic's counsel is flawed, the issue of willfulness raises questions of credibility as well as weight, and findings thereon are not readily

DAMAGES

Sensonics appeals the district court's measure of damages, on the ground that the district court incorrectly assessed the number of infringing devices made by Aerosonic.

The criteria for lost profits damages that are summarized in *Panduit Corp. v. Stahlman Bros. Fiber Works, Inc.*, 575 F.2d 1152, 197 USPQ 726 (6th Cir. 1978), were applied by the district court. The court found that Sensonics had proved (1) demand for the patented product, (2) Sensonics' ability to meet that demand, (3) the absence of acceptable non-infringing substitutes, and (4) the amount of lost profits per unit. The principal issue at trial was not any of these criteria, but the total number of devices that were made by Aerosonic during the period between actual notice of infringement on September 14, 1989 and the expiration of the '114 patent on January 28, 1992.

This issue arose because Aerosonic had apparently destroyed its manufacturing records after this litigation began. No manufacturing records were available for the relevant period except for a handwritten log book of serial numbers that covered the final six months preceding the expiration of the patent. This log commenced with number 21,267 in July 1991, after this suit had been pending for a year. It was the only remaining evidence of the number of devices manufactured. Aerosonic argues that the burden of proof of damages is upon the patentee, and that since the number of devices manufactured could not be proved, the burden could not be met.

However, if actual damages can not be ascertained with precision because the evidence available from the infringer is inadequate, damages may be estimated on the best available evidence, taking cognizance of the reason for the inadequacy of proof and

resolving doubt, against the infringer. See *Westinghouse Elec. & Mfg. Co.*, 225 U.S. 604, 620 (1912) (infringer bears the risk when precise calculation is not possible); *Kori Corp. v. Wilco Marsh Buggies and Draglines, Inc.*, 761 F.2d 649, 655, 225 USPQ 985, 989 (Fed. Cir.) ("Fundamental principles of justice require us to throw any risk of uncertainty upon the wrongdoer rather than upon the injured party.") (citing *Story Parchment Co. v. Paterson Parchment Co.*, 282 U.S. 555, 563 (1931)), *cert. denied*, 474 U.S. 902 (1985).

When the calculation of damages is impeded by incomplete records of the infringer, adverse inferences are appropriately drawn. See *Lam v. Johns-Manville Corp.*, 718 F.2d 1056, 1065, 219 USPQ 670, 675 (Fed. Cir. 1983) (any adverse consequences rest upon the infringer when inability to ascertain lost profits is due to the infringer's failure to keep accurate or complete records). When manufacturing records were destroyed after the litigation commenced, strong inferences adverse to the infringer may be drawn. *Beatrice Foods Co. v. New England Printing and Lithographing Co.*, 899 F.2d 1171, 1176, 14 USPQ2d 1020, 1024 (Fed. Cir. 1990).

The district court found that the final six months' log was the only evidence of the number of devices manufactured. The log listed 1,037 vibrators to which serial numbers were given during the final six months of the life of the '114 patent. From this number the district court extrapolated back, assuming an equal rate of production over the previous three years, to a total of 7,347 units manufactured between the date notice of infringement was given to Aerosonic and the date of patent expiration. See *Beatrice Foods*, 899 F.2d at 1176, 14 USPQ2d at 1024 (damages appropriately measured by reconstruction when infringer had destroyed its invoices). Sensonics states that this extrapolation gives an unrealistically low figure because Aerosonic would reasonably be expected to have cut back on infringing production for the last few months of patent life, especially because this litigation was ongoing.

[4] Sensonics states that Aerosonic's failure to retain production records during the litigation period requires that strong adverse inferences be drawn. We agree that this circumstance gives rise to a strong inference that the records would have been unfavorable to Aerosonic. *Lam v. Johns-Manville*, 718 F.2d at 1065, 219 USPQ at 675. Indeed, as the court discussed in *Nation-Wide Check Corp. v. Forest Hills Distribs., Inc.*, 692 F.2d 214, 218 (1st Cir. 1982), it is not

necessary to establish bad faith in order to draw an adverse inference from "purposeful" action.

The adverse inference is based on two rationales, one evidentiary and one not. The evidentiary rationale is nothing more than the common sense observation that a party who has notice that a document is relevant to litigation and who proceeds to destroy the document is more likely to have been threatened by the document than is a party in the same position who does not destroy the document.

The other rationale for the inference has to do with its prophylactic and punitive effects. Allowing the trier of fact to draw the inference presumably deters parties from destroying relevant evidence before it can be introduced at trial.

Citing 2 Wigmore on Evidence § 291, at 228 (Chadbourn rev. 1979).

Aerosonic had the clear duty of keeping and preserving records of the acts for which infringement had been charged, and it is appropriate that doubt be resolved against Aerosonic. Although Aerosonic's actions warrant adverse inferences, Sensonics does not suggest an alternative to the extrapolation method adopted by the district court. Thus the district court's extrapolation represents the best available reconstruction of the infringing activity, and is sustained.

The district court then reduced the extrapolated production of 7,347 units by 33% ("in order to account for any duplication resulting from device repair or inefficiency in production of the vibrators." Sensonics states that this reduction is unsupported by evidence, and contrary to the great weight of the evidence. We must agree. There was no evidence that device repair or production inefficiency was reflected in the log showing the serial number that was applied when the vibrator was ready for shipment or installation. Mr. Frank, who was the chief executive officer of Aerosonic during this period, testified that: "The serial number is put on the vibrator just before it is shipped, or before we put it into an indicator." On this procedure, any device repair or inefficiency in production would not be reflected in the serial number.

The Aerosonic log that was produced included repairs. It was the only record of repairs that was produced, and showed a repair rate of less than 0.4%, without a change of serial number for the repaired unit. Aerosonic did not establish that 33% or any other number of vibrators bore multiple serial numbers or were given new serial numbers after they were returned for repair. Further, if evidentiary imprecision is due to

inadequacy of the infringer's records, uncertainty is resolved against the wrongdoer. *Kori v. Wilco*, 761 F.2d at 655, 225 USPQ at 989; *Lam v. Johns-Manville*, 718 F.2d at 1065, 219 USPQ at 675.

Aerosonic states that damages are measured not by the number of devices manufactured but by the number of devices sold before patent expiration, arguing that there is no record evidence of when the devices listed on the serial number log were sold, but that they would have been sold mostly after patent expiration. The statement of law is incorrect. The patent statute grants the patentee the right to exclude others from making, using, or selling the patented subject matter. 35 U.S.C. § 271. Any of these activities during the patent term is an infringement of the patent right.

In the absence of any evidence that a significant number of the units to which a serial number was given were not separate manufactures, the district court's reduction of the total of 7,347 is clearly in error, and is reversed. Damages shall be paid on 7,347 units. The district court's decision is modified accordingly.

ENHANCEMENT OF DAMAGES

Sensonics states that the district court abused its discretion in declining to enhance damages in accordance with 35 U.S.C. § 284 ("the court may increase the damages up to three times the amount found or assessed"). The district court's decision with respect to the enhancement of damages will be sustained unless it was based on an incorrect conclusion of law, clearly erroneous findings of fact, or a clear error of judgment. *National Presto Industries, Inc. v. The West Bend Co.*, 76 F.3d 1185, 1193, 37 USPQ2d 1685, 1691 (Fed. Cir. 1996).

[5] Section 284 does not state the circumstances in which damages may be enhanced by the court. In *Yarway Corp. v. Eur-Conrol USA, Inc.*, 775 F.2d 268, 277, 227 USPQ 352, 358 (Fed. Cir. 1985) the court explained that "enhancement of damages must be premised on willful infringement or bad faith." See *Shatterproof Glass Corp. v. Libbey-Owens Ford Co.*, 758 F.2d 613, 628, 225 USPQ 634, 644 (Fed. Cir.), *cert. dismissed*, 474 U.S. 976 (1985) (absent willful infringement, enhanced damages are usually not warranted). As elaborated in *Beatrice Foods Co. v. New England Printing and Lithographing Co.*, 923 F.2d 1576, 1580, 17 USPQ2d 1553, 1556 (1991), enhanced damages are punitive, not compensatory. Enhancement is not a substitute for perceived

inadequacies in the calculation of actual damages, but depends on a showing of willful infringement or other indicium of bad faith warranting punitive damages.

The district court declined to enhance damages. Since we have affirmed the finding that the infringement was not willful, we conclude that the district court acted within its discretion in declining to enhance damages pursuant to § 284.

PREJUDGMENT INTEREST

[6] The district court denied prejudgment interest, referring to the difficulty of its calculation. It was established in *General Motors Corp. v. Devex Corp.*, 461 U.S. 648, 217 USPQ 1185 (1983) that prejudgment interest is the rule, not the exception. The Supreme Court explained that the denial of prejudgment interest simply creates an incentive to prolong litigation, and that prejudgment interest in patent cases is withheld only under exceptional circumstances. 461 U.S. at 656-57, 217 USPQ at 1189. In *Lummus Industries, Inc. v. D.M. & E. Corp.*, 862 F.2d 267, 274-75, 8 USPQ2d 1983, 1988 (Fed. Cir. 1988) the court held that "[t]o deny prejudgment interest based on calculation difficulties alone would be error."

We have been directed to no circumstance that would make it unfair or inappropriate to award prejudgment interest in this case. As stated in *General Motors v. Devex*, an award of prejudgment interest serves to make the patent owner whole, for damages properly include the foregone use of money of which the patentee was wrongly deprived. 461 U.S. at 655-56, 217 USPQ 1188. Sensonics has included in its appellate brief a reasonable methodology for calculation of prejudgment interest. Aerosonic has not challenged the rate or the arithmetic. The denial of prejudgment interest is reversed. On remand prejudgment interest, calculated in accordance with the Sensonics method, shall be awarded.

ATTORNEY FEES

The district court did not separate, in its analysis, the criteria for enhancement of damages and for the award of attorney fees. They are not necessarily the same, although the contributing factors often overlap.

[7] The award of attorney fees requires a threshold determination that this is an "exceptional case." 35 U.S.C. § 285. Bad faith and willful infringement are not the only criteria whereby a case may be deemed to be "exceptional," although when either is

present the requirement is more readily met. Litigation misconduct and unprofessional behavior are relevant to the award of attorney fees, and may suffice to make a case exceptional under § 285. *Spectra-Physics Inc. v. Coherent, Inc.*, 827 F.2d 1524, 1537, 3 USPQ2d 1737, 1746 (Fed. Cir.), *cert. denied*, 484 U.S. 954 (1987). See *Kloster Steel AB v. Crucible Inc.*, 793 F.2d 1565, 1580, 230 USPQ 81, 91 (Fed. Cir. 1986) (bad faith in pretrial and trial stages, by counsel or party, may render the case exceptional under § 285).

The district court had declined to enhance damages, on the ground that the infringement was not willful. However, the district court did not discuss whether there were actions of bad faith sufficient to meet the criterion of "exceptional case" and to warrant the award of attorney fees. Sensonics points to Aerosonic's pre-litigation false statement that it was not manufacturing the device but was simply reselling it, citing Mr. Frank's letter of September 21, 1989 to Sensonics' counsel.⁷ Sensonics states that this led it to sue Budd Electronics Corporation in the Eastern District of Pennsylvania. At trial Mr. Frank admitted that he ordered the copying and manufacture of the Sensonics device.

At his deposition Aerosonic employee Ronald Miller was testifying to similar effect when Aerosonic's attorney McDonald passed him a note stating "DID NOT COPY" (plaintiff's exhibit 52). These procedures, of which Sensonics complains forcefully, demean the litigation process.

Sensonics also points to Aerosonic's motion to the district court filed October 22, 1991, opposing Sensonics' motion of October 15, 1991 to lift the stay for reexamination. Aerosonic assuring the court that the reexamination certificate had not issued, when it had issued on September 24, 1991. Before this aspect was resolved another year passed, during which the patent expired.

Combined with these actions is the matter of manufacturing records. Aerosonic employees admitted that prior serial number logs existed as late as eighteen months after the suit was filed, although no witness could tell what became of these logs. Aerosonic employees testified that they did not know how many devices were manufactured, even

⁷ Mr. Frank, then president, chief executive officer, and chief of engineering at Aerosonic, wrote: "Aerosonic Corporation purchased the violators from another company, and if you have some legal action, it would be against them." [signed] "Herbert J. Frank, President".

for purposes of warranty control. Employees in responsible management positions testified that they did not have any records or any idea of how many devices were manufactured. The Supervisor of the Electronics Department, who personally kept the final six months' log of serial numbers, testified that a previous log must have existed when she started the remaining log with serial number 21,267, but that it no longer existed or could be produced. As we have discussed, there is an uncompromising duty to preserve relevant records, and particularly after litigation has begun.

It is the judicial duty to refuse to condone behavior that exceeds reasonable litigation tactics. The district court made no findings concerning whether Aerosonic's actions were taken in good faith. Indeed, the court may consider the litigation actions of both sides in connection with § 285. See *Beairce Foods*, 923 F.2d at 1580, 17 USPQ2d at 1556 (requiring findings of fact on the issue of bad faith). We remand for determination of whether there was bad faith or vexatious behavior or other grounds for deeming this case exceptional in terms of 35 U.S.C. § 285. If so, the district court may determine whether the award of attorney fees is warranted.

APPEAL OF HERBERT J. FRANK

Mr. Frank was the founder, owner, president, chief executive officer, and chief of engineering of Aerosonic. In 1990 he became chairman, his son-in-law became president, and Mr. Frank continued as chief executive officer for an additional two years. The district court found Mr. Frank personally liable for inducement to infringe the '114 patent. Mr. Frank appeals.

The tort of "inducement" under 35 U.S.C. § 271(b), when applied to invoke personal liability, is premised on a concept of tortfeasance whereby persons in authority and control may in appropriate circumstances be deemed liable for wrongdoing, when inducing direct infringement by another. See *Water Technologies Corp. v. Calco, Ltd.*, 850 F.2d 660, 7 USPQ2d 1097 (Fed. Cir.) (finding liability for inducement based on specific circumstances of personal control of Calco's manufacture of the infringing products). *cert. denied*, 488 U.S. 968 (1988); *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1578-79, 1 USPQ2d 1081, 1090 (Fed. Cir. 1986) (corporate officers who actively aid and abet their corporation's infringement may be personally liable for inducing infringement).

[8] Mr. Frank testified that he did not have the authority to control or discontinue production of the device after he became aware of Sensonics' patent rights or as the litigation progressed. The district court did not believe this statement. We do not discern clear error in this credibility determination, for the weight of evidence was strongly contrary to this testimony. In the absence of reversible error, the district court's ruling that Mr. Frank is liable for inducement to infringe, and jointly and severally liable for the judgment, is affirmed.

Summary

The district court's rulings of validity, enforceability, and infringement of the '114 patent are affirmed. Damages shall be measured on the basis of 7,347 infringing units, without enhancement. The denial of prejudgment interest is reversed. On remand the damages award and interest shall be recalculated, and the district court shall make findings on the issue of whether this is an exceptional case for the purposes of 35 U.S.C. § 285.

On Mr. Frank's individual appeal, the district court's judgment is affirmed. Costs to Sensonics.

AFFIRMED IN PART. MODIFIED AND REVERSED IN PART, AND REMANDED.

Patent and Trademark Office Trademark Trial and Appeal Board

In re Broadway Chicken Inc.

Serial No. 74/326,626

Decided March 26, 1996

Released April 4, 1996

TRADEMARKS AND UNFAIR TRADE PRACTICES

1. Practice and procedure in Patent and Trademark Office — Ex parte proceedings — In general (§325.0501)

JUDICIAL PRACTICE AND PROCEDURE

Procedure — Evidence — In general (§410.3701)

Evidence offered by applicant for registration of "Broadway Chicken" mark for restaurant services, which consists of telephone and business directory listings of restaurants

using term "Broadway" in name, is sufficient to establish prima facie that significant number of third parties use trade names or service marks containing term "Broadway" for restaurant services and for goods or services related thereto, since there is no bias in directories, which were not prepared for purposes of present case but are maintained on ongoing basis for general business use, since multiple sources of third-party use evidence corroborate each other, and since Trademark Trial and Appeal Board takes more permissive stance with respect to introduction of evidence in ex parte proceeding than in inter partes proceeding.

TRADEMARKS AND UNFAIR TRADE PRACTICES

2. Infringement; conflicts between marks — Likelihood of confusion — Evidence of — In general (§335.0303.01)

Evidence of widespread third-party use, in particular field, of marks containing certain shared term is competent to suggest that purchasers have been conditioned to look to other elements of marks as means of distinguishing source of goods or services in that field.

3. Infringement; conflicts between marks — Likelihood of confusion — Particular marks — Confusion not likely (§335.0304.05)

Confusion is not likely to result from contemporaneous use of applicant's "Broadway Chicken" mark and registered marks "Broadway Pizza" and "Broadway Bar & Pizza" in connection with restaurant services, since applicant's evidence of widespread third-party use of trade names and marks containing term "Broadway" for restaurant services, closely related goods and services, and unrelated goods and services, viewed together with differences in marks and geographic significance of term "Broadway," is sufficient in ex parte proceeding to warrant finding that confusion is not likely.

Appeal from final refusal of intent-to-use application for trademark registration (Zha-leh S. Khabiri, examining attorney; R. Ellsworth Williams, managing attorney).

Application of Broadway Chicken Inc., no. 74/326,626, filed October 28, 1992, for registration of mark "Broadway Chicken," for restaurant services. From final refusal of registration, applicant appeals. Reversed. Before Rice, Hanak, and Hohein, administrative trademark judges.

patent violate the written description requirement of section 112, 1.1. But to state the argument is to realize its objection; as we discussed above, the written description of the '835 patent provides ample support for the ordinary and accustomed meaning of the terms of the '835 claims. Thus, the '835 claims, as construed by the district court and this court, are entitled to the benefit of the filing date of the '586 application. No violation of section 102(b)'s on-sale bar has occurred.

IV

Zebco has failed to demonstrate to this court that the disputed claim terms of claim 1 of the '835 patent should be interpreted in a way other than their ordinary and accustomed meaning. Therefore, we find that the district court's claim interpretation, and the summary judgment of infringement conditioned thereon, was not erroneous. We also hold that the district court correctly determined that the relevant claim of the '835 patent, as construed, is not invalid. The judgment of the district court is affirmed.

AFFIRMED.

U.S. Court of Appeals Federal Circuit

In re Dembiczak

No. 98-1498

Decided April 28, 1999

PATENTS

1. Patentability/Validity — Obviousness — Combining references (§115.0905)

Decision rejecting claims in utility application as obvious over combination of prior art references must be reversed, since obviousness analysis in decision is limited to discussion of ways that multiple references can be combined to read on claimed invention, but does not particularly identify any suggestion, teaching, or motivation to combine references, and does not include specific or inferential findings concerning identification of relevant art, level of ordinary skill in art, nature of problem to be solved, or any other factual findings that might support proper obviousness analysis.

2. Patentability/Validity — Anticipation — Double patenting (§115.0708)

Obviousness-type double patenting may be found between design and utility patents in rare cases, but such rejection is appropriate only if claims of two patents cross-read, meaning that subject matter of claims of patent sought to be invalidated would have been obvious from subject matter of claims of other patent, and vice-versa.

3. Patentability/Validity — Anticipation — Double patenting (§115.0708)

Applicants' design patents for bag with jack-o'-lantern face would not have been obvious variants of their pending utility claims directed to trash bag decorated to resemble Halloween pumpkin when filled with trash or leaves, since textual description of "facial indicia" on bag found in claims of utility patent application cannot constitute design reference that is "basically the same as" specific designs claimed in applicants' patentably distinct design patents.

Appeal from the U.S. Patent and Trademark Office. Board of Patent Appeals and Interferences.

Application of Anita Dembiczak and Benson Zinbarg for utility patent (application serial no. 08/427,732). From decision sustaining rejections of claims in application, applicants appeal. Reversed.

David P. Gordon and Thomas A. Gallagher, Stamford, Conn., for appellants.

John M. Whealan, associate solicitor, Albin F. Drost, acting solicitor, and David R. Nicholson, associate solicitor, Office of the Solicitor, Arlington, Va., for appellee.

Before Mayer, chief judge, and Michel and Clevenger, circuit judges.

Clevenger, J.

Anita Dembiczak and Benson Zinbarg appeal the rejection, upheld by the Board of Patent Appeals and Interferences, of all pending claims in their Application No. 08/427,732. See *Ex Parte Dembiczak*, No. 96-2648, slip op. at 43 (May 14, 1998). Because the Board erred in sustaining rejections of the pending claims as obvious under 35 U.S.C. § 103(a) (Supp. 1998), and for obviousness-type double patenting, we reverse.

claims vary, independent claim 74 is perhaps most representative:

74. A decorative bag for use by a user with trash filling material, the bag simulating the general outer appearance of an outer surface of a pumpkin having facial indicia thereon, comprising:

a flexible waterproof plastic trash or leaf bag having an outer surface which is premanufactured orange in color for the user to simulate the general appearance of the outer skin of a pumpkin, and having facial indicia including at least two of an eye, a nose and a mouth on the orange color outer surface for forming a face pattern on said orange color outer surface to simulate the general outer appearance of a decorative pumpkin with a face thereon,

said trash or leaf bag having first and second opposite ends, at least said second end having an opening extending substantially across the full width of said trash or leaf bag for receiving the trash filling material,

wherein when said trash or leaf bag is filled with trash filling material and closed, said trash or leaf bag takes the form and general appearance of a pumpkin with a face thereon.

All of the independent claims on appeal, namely 37, 52, 72, and 74, contain limitations that the bag must be "premanufactured orange in color," have "facial indicia," have openings suitable for filling with trash material, and that when filled, the bag must have a generally rounded appearance, like a pumpkin. Independent claims 37, 52, and 72 add the limitation that the bag's height must be at least 36 inches. Claim 72 requires that the bag be made of a "weatherproof material," and claim 74, as shown above, requires that the bag be "waterproof." Claim 52 recites a "method of assembling" a bag with the general characteristics of apparatus claim 37.

B

The prior art cited by the Board includes:

(1) pages 24-25 of a book entitled "A Handbook for Teachers of Elementary Art," by Holiday Art Activities ("Holiday"), describing how to teach children to make a "Crepe Paper Jack-O-Lantern" out of a strip of orange crepe paper, construction paper cut-outs in the shape of facial features, and "wadded newspapers" as filling;

(2) page 73 of a book entitled "The Everything Book for Teachers of Young Chil-

The invention at issue in this case is, generally speaking, a large trash bag made of orange plastic and decorated with lines and facial features, allowing the bag, when filled with trash or leaves, to resemble a Halloween-style pumpkin, or jack-o'-lantern. As the inventors, Anita Dembiczak and Benson Zinbarg (collectively, "Dembiczak") note, the invention solves the long-standing problem of unsightly trash bags placed on the curbs of America, and, by fortuitous happenstance, allows users to express their whimsical or festive nature while properly storing garbage, leaves, or other household debris awaiting collection. Embodiments of the invention—sold under a variety of names, including Giant Stuff-A-Pumpkin®, Funkins, Jack Sack®, and Bag-O-Fun®—have undisputedly been well-received by consumers, who bought more than seven million units in 1990 alone. Indeed, in 1990, the popularity of the pumpkin bags engendered a rash of thefts around Houston, Texas, leading some owners to resort to preventative measures, such as greasing the bags with petroleum jelly and tying them to trees. See R. Piller, "Halloween Hopes Die on the Vine," *Hous. Chron.*, Oct. 19, 1990, at 13A.

The road to profits has proved much easier than the path to patentability, however. In July 1989, Dembiczak filed a utility patent application generally directed to the pumpkin bags. In a February 1992 appeal, the Board of Patent Appeals and Interferences ("the Board") reversed the Examiner's rejection, but entered new grounds for rejection. Dembiczak elected to continue prosecution, filing a continuation application to address the new grounds for rejection. Thereafter, the invention made a second appearance before the Board, in April 1993, when the Board both sustained the Examiner's rejection and again entered new grounds for rejection. Again, a continuation application was filed (the instant application). And again the Examiner's rejection was appealed to the Board, which sustained the rejection in a May 14, 1998, decision. See *Dembiczak*, slip op. at 43.

A

The patent application at issue includes claims directed to various embodiments of the pumpkin bag. Claims 37, 49, 51, 52, 58 through 64, 66 through 69, and 72 through 81 are at issue in this appeal. Though the

dren," by Martha Shapiro and Valerie Indenbaum ("Shapiro"), describing a method of making a "paper bag pumpkin" by stuffing a bag with newspapers, painting it orange, and then painting on facial features with black paint.

(3) U.S. Patent No. 3,349,991 to Leonard Kessler, entitled "Flexible Container" ("Kessler"), describing a bag apparatus wherein the bag closure is accomplished by the use of folds or gussets in the bag material.

(4) U.S. Patent No. Des. 310,023, issued August 21, 1990 to Dembiczak ("Dembiczak '023"), a design patent depicting a bag with a jack-o'-lantern face.

(5) U.S. Patent No. Des. 317,254, issued June 4, 1991 to Dembiczak ("Dembiczak '254"), a design patent depicting a bag with a jack-o'-lantern face; and,

(6) Prior art "conventional" plastic lawn or trash bags ("the conventional trash bags").

Using this art, the Board affirmed the Examiner's final rejection of all the independent claims (37, 52, 72, 74) under 35 U.S.C. § 103, holding that they would have been obvious in light of the conventional trash bags in view of the Holiday and Shapiro references. The Board determined that, in its view of the prior art, "the only difference between the invention presently defined in the independent claims on appeal and the orange plastic trash bags of the prior art and the use of such bags resides in the application of the facial indicia to the outer surface of the bag." *Dembiczak*, slip op. at 18. The Board further held that the missing facial indicia elements were provided by the Holiday and Shapiro references' description of painting jack-o'-lantern faces on paper bags. See *id.* at 18-19. Dependent claims 49 and 79, which include a "gusset" limitation, were considered obvious under similar reasoning, except that the references cited against them included Kessler. See *id.* at 7.

The Board also affirmed the Examiner's obviousness-type double patenting rejection of all the independent claims in light of the two Dembiczak design patents ('023 and '254) and Holiday. See *id.* at 12. The Board held that the design patents depict a generally rounded bag with jack-o'-lantern facial indicia, and that the Holiday reference supplies the missing limitations, such as the "thin, flexible material" of manufacture, the orange color, the initially-open upper end, and the trash filling material. The Board also stated that the various limitations of the dependent claims—e.g., color, the inclusion of leaves as stuffing, and the dimensions—would all be obvious variations of the depic-

1998), when analyzing the patentability of claims pursuant to that section. Measuring a claimed invention against the standard established by section 103 requires the oft-difficult but critical step of casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field. See, e.g., *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 313 (Fed. Cir. 1983). Close adherence to this methodology is especially important in the case of less technologically complex inventions, where the very ease with which the invention can be understood may prompt one "to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher." *Id.*

Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references. See, e.g., *C.R. Bard, Inc. v. M3 Sys., Inc.*, 157 F.3d 1340, 1352, 48 USPQ2d 1225, 1232 (Fed. Cir. 1998) (describing "teaching or suggestion or motivation [to combine]" as an "essential evidentiary component of an obviousness holding"); *In re Rouffet*, 149 F.3d 1350, 1359, 47 USPQ2d 1453, 1459 (Fed. Cir. 1998) ("the Board must identify specifically . . . the reasons one of ordinary skill in the art would have been motivated to select the references and combine them"); *In re Frisch*, 972 F.2d 1260, 1265, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992) (examiner can satisfy burden of obviousness in light of combination "only by showing some objective teaching [leading to the combination]"); *In re Fine*, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988) (evidence of teaching or suggestion "essential" to avoid hindsight); *Ashland Oil, Inc. v. Delta Refining & Refractories, Inc.*, 776 F.2d 281, 297, 227 USPQ 657, 667 (Fed. Cir. 1985) (district court's conclusion of obviousness was error when it "did not elucidate any factual teachings, suggestions or incentives from this prior art that showed the propriety of combination"). See also *Graham*, 383 U.S. at 148, 149 USPQ at 467 ("strict observance" of factual predicates to obviousness conclusion required). Combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability—the essence of hindsight. See, e.g., *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1138,

227 USPQ 543, 547 (Fed. Cir. 1985) ("The invention must be viewed not with the blueprint drawn by the inventor, but in the state of the art that existed at the time."). In this case, the Board fell into the hindsight trap.

We have noted that evidence of a suggestion, teaching, or motivation to combine may flow from the prior art references themselves, the knowledge of one of ordinary skill in the art, or, in some cases, from the nature of the problem to be solved. See *Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1368, 1573, 37 USPQ2d 1626, 1630 (Fed. Cir. 1996), *Para-Ordinance Mfg. v. SGS Imports Intern'l, Inc.*, 73 F.3d 1085, 1088, 37 USPQ2d 1237, 1240 (Fed. Cir. 1995), although "the suggestion more often comes from the teachings of the pertinent references," *Rouffet*, 149 F.3d at 1355, 47 USPQ2d at 1456. The range of sources available, however, does not diminish the requirement for actual evidence. That is, the showing must be clear and particular. See, e.g., *C.R. Bard*, 157 F.3d at 1352, 48 USPQ2d at 1232. Broad conclusory statements regarding the teaching of multiple references, standing alone, are not "evidence." E.g., *McElmurry v. Arkansas Power & Light Co.*, 995 F.2d 1576, 1578, 27 USPQ2d 1129, 1131 (Fed. Cir. 1993) ("Mere denials and conclusory statements, however, are not sufficient to establish a genuine issue of material fact."); *In re Sichert*, 566 F.2d 1154, 1164, 196 USPQ 209, 217 (CCPA 1977) ("The examiner's conclusory statement that the specification does not teach the best mode of using the invention is unaccompanied by evidence or reasoning and is entirely inadequate to support the rejection."). In addition to demonstrating the propriety of an obviousness analysis, particular factual findings regarding the suggestion, teaching, or motivation to combine serve a number of important purposes, including: (1) clear explanation of the position adopted by the Examiner and the Board; (2) identification of the factual disputes, if any, between the applicant and the Board; and (3) facilitation of review on appeal. Here, however, the Board did not make particular findings regarding the locus of the suggestion, teaching, or motivation to combine the prior art references.

[1] All the obviousness rejections affirmed by the Board resulted from a combination of prior art references, e.g., the conventional trash or yard bags, and the Holiday and Shapiro publications teaching the construction of decorated paper bags. See *Dembiczak*, slip op. at 6-7. To justify this combination, the Board simply stated that "the Holiday and Shapiro references would have

suggested the application of "... facial indicia to the prior art plastic trash bags." *Id.* at 18-19. However, rather than pointing to specific information in Holiday or Shapiro that suggest the combination with the conventional bags, the Board instead described in detail the similarities between the Holiday and Shapiro references and the claimed invention, noting that one reference or the other—in combination with each other and the conventional trash bags—described all of the limitations of the pending claims. *See id.* at 18-28. Nowhere does the Board particularly identify any suggestion, teaching, or motivation to combine the children's art references (Holiday and Shapiro) with the conventional trash or lawn bag references, nor does the Board make specific—or even inferential—findings concerning the identification of the relevant art, the level of ordinary skill in the art, the nature of the problem to be solved, or any other factual findings that might serve to support a proper obviousness analysis. *See, e.g., Pro-Mold & Tool*, 75 F.3d at 1573, 37 USPQ2d at 1630.

To the contrary, the obviousness analysis in the Board's decision is limited to a discussion of the ways that the multiple prior art references can be combined to read on the claimed invention. For example, the Board finds that the Holiday bag reference depicts a "premanufactured orange" bag material, *see Dembiczak*, slip op. at 21, finds that Shapiro teaches the use of paper bags in various sizes, including "large", *see id.* at 22-23, and concludes that the substitution of orange plastic for the crepe paper of Holiday and the paper bags of Shapiro would be an obvious design choice, *see id.* at 24. Yet this reference-by-reference, limitation-by-limitation analysis fails to demonstrate how the Holiday and Shapiro references teach or suggest their combination with the conventional trash or lawn bags to yield the claimed invention. *See Rouffey*, 149 F.3d at 1357, 47 USPQ2d at 1459 (noting Board's failure to explain, when analyzing the prior art, "what specific understanding or technical principle ... would have suggested the combination"). Because we do not discern any finding by the Board that there was a suggestion, teaching, or motivation to combine the prior art references cited against the pending claims, the Board's conclusion of obviousness, as a matter of law, cannot stand. *See C.R. Bard*, 157 F.3d at 1352, 48 USPQ2d at 1232; *Rouffey*, 149 F.3d at 1359, 47 USPQ2d at 1459; *Fritch*, 972 F.2d at 1265, 23 USPQ2d at 1783; *Fine*, 837 F.2d at 1075, 5 USPQ2d at 1600; *Ashland Oil*, 776 F.2d at 297, 227 USPQ at 667.

The Commissioner of Patents and Trademarks ("Commissioner") attempts to justify the Board's decision on grounds different from that relied upon by the Board, arguing that one of ordinary skill in the art would have been motivated to combine the references. Of course, in order to do so, the Commissioner must do what the Board did not do below: make specific findings of fact regarding the level of skill in the art ("a designer and manufacturer of trash and leaf bags, particularly one specializing in the ornamental and graphic design of such bags"). *Resp't Br.* at 14, the relationship between the fields of conventional trash bags and "children's crafts, respectively ([t]he artisan would also have been well aware of the ancillary, corollary, and atypical uses of 'trash' bags such as their application in hobby and art projects"). *Resp't Br.* at 15, and the particular features of the prior art references that would motivate one of ordinary skill in a particular art to select elements disclosed in references from a wholly different field ("a designer and manufacturer of trash and leaf bags would have recognized the paper bag in Shapiro to be a trash bag and therefore would have been motivated to combine it with the admitted prior art plastic trash and leaf bags to arrive at the claimed invention"). *Resp't Br.* at 15. The Commissioner also appears to cite additional references in support of his obviousness analysis, noting that at least two design patents (in the record but not cited against the presently pending claims) teach the placement of "graphical information, including text, designs, and even facial indicia, to colored bags." *Resp't Br.* at 16. This new analysis, apparently cut from whole cloth in view of the appeal, does little more than highlight the shortcomings of the decision below, and we decline to consider it. *See, e.g., In re Robertson*, 169 F.3d 743, 49 USPQ2d 1949, 1951 (Fed. Cir. 1999) ("We decline to consider [the Commissioner's] newly-minted theory as an alternative ground for upholding the agency's decision."); *In re Soni*, 54 F.3d 746, 751, 34 USPQ2d 1684, 1688 (Fed. Cir. 1995); *In re Hounsfield*, 699 F.2d 1320, 1324, 216 USPQ 1045, 1049 (Fed. Cir. 1983) (rejecting an "attempt[] by the Commissioner" to apply a new rationale to support the rejection."); *see also* 35 U.S.C. § 144 (1994) (an appeal to the Federal Circuit "is taken on the record before The Patent and Trademark Office"). Because the Board has not established a *prima facie* case of obviousness, *see In re Bell*, 991 F.2d 781,

783, 26 USPQ2d 1529, 1531 (Fed. Cir. 1993) ("The PTO bears the burden of establishing a case of *prima facie* obviousness."), we therefore reverse the obviousness rejections, and have no need to address the parties' arguments with respect to secondary factors.

III

Dembiczak also asks this court to reverse the Board's rejection of the pending claims for obviousness-type double patenting, which is a judicially-created doctrine that seeks to prevent the applicant from expanding the grant of the patent right beyond the limits prescribed in Title 35. *See, e.g., In re Braat*, 937 F.2d 589, 592, 19 USPQ2d 1289, 1291-92 (Fed. Cir. 1991); *In re Longi*, 759 F.2d 887, 892, 225 USPQ 645, 648 (Fed. Cir. 1985). *See also* 35 U.S.C. § 154(a)(2) (Supp. 1998) (discussing patent term). The doctrine prohibits claims in a second patent which define "merely an obvious variation" of an invention claimed by the same inventor in an earlier patent. *Braat*, 937 F.2d at 592, 19 USPQ2d at 1292 (quoting *In re Vogel*, 422 F.2d 438, 441, 164 USPQ 619, 622 (CCPA 1970)). Thus, unless a claim sought in the later patent is patentably distinct from the claims in an earlier patent, the claim must be rejected. *See In re Goodman*, 11 F.3d 1046, 1052, 29 USPQ2d 2010, 2015 (Fed. Cir. 1993); *Vogel*, 422 F.2d at 441, 164 USPQ at 622. This question is one of law, which we review *de novo*. *See Goodman*, 11 F.3d at 1052, 29 USPQ2d at 2015; *Texas Instruments Inc. v. United States Int'l Trade Comm'n*, 988 F.2d 1165, 1179, 26 USPQ2d 1018, 1029 (Fed. Cir. 1993).

A

[2] The law provides that, in some very rare cases, obvious-type double patenting may be found between design and utility patents. *See Carman Indus., Inc. v. Wahl*, 724 F.2d 932, 939-40, 220 USPQ 481, 487 (Fed. Cir. 1983) (noting that, while theoretically possible, "[d]ouble patenting is rare in the context of utility versus design patents"); *In re Thorington*, 418 F.2d 528, 536-37, 163 USPQ 644, 650 (CCPA 1969) (Double patenting between a design and utility patent is possible "if the features producing the novel aesthetic effect of a design patent or application are the same as those recited in the claims of a utility patent or application as producing a novel structure."); *In re Phelan*, 205 F.2d 183, 98 USPQ 156 (CCPA 1953);

In re Barber, 81 F.2d 231, 28 USPQ 187 (CCPA 1936); *In re Hargraves*, 53 F.2d 900, 11 USPQ 240 (CCPA 1931). In these cases, a "two-way" test is applicable. *See Carman*, 724 F.2d at 940, 220 USPQ at 487. Under this test, the obviousness-type double patenting rejection is appropriate only if the claims of the two patents cross-read, meaning that "the test is whether the subject matter of the claims of the patent sought to be invalidated would have been obvious from the subject matter of the claims of the other patent, and vice versa." *Id.* 220 USPQ at 487. *See also Braat*, 937 F.2d at 593, 19 USPQ2d at 1292 (explaining two-way test).

B

In making its double patenting rejection, the Board concluded that all but one of the pending claims of Dembiczak's utility application would have been merely an obvious variation of the claims of the earlier-issued design patents—the Dembiczak '023 and '254 references—in light of the Holiday reference. The remaining claim, dependent claim 49, was judged obvious in light of the combination of the Dembiczak design patents, Holiday, and the Kessler reference.

[3] Acknowledging that the two-way test was required by *Carman*, 724 F.2d at 940, 220 USPQ at 487, the Board concluded that "the design claimed in each of appellants' design patents does not exclude the features pertaining to the construction and color of the bag, the use of a plastic material for making the bag, the size or thickness of the bag ... or the use of various types of filling material The particular details of the facial indicia would have been a matter of design choice as evidenced by the Holiday handbook," and that therefore, in view of Holiday, the claims of the design patents were obvious variants of the pending utility patent claims. *See Dembiczak*, slip op. at 11. We disagree. In order for a design to be unpatentable because of obviousness, there must first be a basic design reference in the prior art, the design characteristics of which are "basically the same as the claimed design." *In re Borden*, 90 F.3d 1570, 1574, 39 USPQ2d 1524, 1526 (Fed. Cir. 1996); *In re Rosen*, 673 F.2d 388, 391, 213 USPQ 347, 350 (CCPA 1982). The phrase "having facial indicia thereon" found in the claims of the pending utility application is not a design reference that is "basically the same as the claimed design." *Borden*, 90 F.3d at 1574, 39 USPQ2d at 1526. In fact, it describes precious little with respect to design charac-

REVERSED.

teristics. The Board's suggestion that the design details were simply "a matter of design choice" evinces a misapprehension of the subject matter of design patents. *E.g.*, *Carman*, 724 F.2d at 939 n.13, 220 USPQ at 486 n.13 ("Utility patents afford protection for the mechanical structure and function of an invention whereas design patent protection concerns the ornamental or aesthetic features of a design.") Indeed, we note that the two design patents at issue here—the Dębiczak '023 and '254 patents—were considered nonobvious over each other, and were even the subject of a restriction requirement. See 35 U.S.C. § 121 (1994) ("If two or more independent and distinct inventions are claimed in one application, the Commissioner may require the application to be restricted to one of the inventions."); 37 C.F.R. § 1.142. The position adopted by the Board—that a textual description of facial indicia found in the claims of the utility patent application makes obvious the specific design claimed in the (patentably distinct) Dębiczak design patents—would presumably render obvious, or even anticipate, all design patents where a face was depicted on a bag. But this, of course, is not the law; the textual description cannot be said to be a reference "basically the same as the claimed design," of the design patents at issue here. *Borden*, 90 F.3d at 1574, 39 USPQ2d at 1526 (internal quotation marks omitted). The Board's conclusion of obviousness is incorrect.

Because we find that the Board erred in concluding that the design patents were obvious variants of the pending utility claims, we need not address the other prong of the two-way double patenting test—whether the pending utility claims are obvious variations of the subject matter claimed in the design patents. See *Carman*, 724 F.2d at 939, 220 USPQ at 487 (both prongs of the two-way test required for obviousness-type double patenting). The double patenting rejections are reversed.

IV

Because there is no evidence in the record of a suggestion, teaching, or motivation to combine the prior art references asserted against the pending claims, the obviousness rejections are reversed. In addition, because the Board misapprehended the test for obviousness-type double patenting, and because the pending utility claims do not render obvious the design patents, the double patenting rejections are also reversed.

U.S. District Court
Southern District of Iowa

University of Iowa Research Foundation v.
Beveridge, DeGrandi, Weilacher & Young
L.L.P.

No. 3-98-CV-90013
Decided August 26, 1998

JUDICIAL PRACTICE AND
PROCEDURE1. Jurisdiction — Personal jurisdiction
(§405.11)

Federal court in Iowa lacks specific personal jurisdiction over Washington, D.C. law firm and attorney named as defendants in action for professional malpractice, since defendants did not "purposefully direct" their activities at Iowa, given that defendants are charged only with negligently failing to pay maintenance fee on single patent, and that all work done in connection with that patent was performed in Washington, D.C., since single claim of legal malpractice with respect to payment of maintenance fee in Washington, D.C. cannot be said to have "arisen out of" or resulted from attorney-client relationship that began in Iowa 30 years earlier, since nature and quality of defendants' contacts with Iowa do not demonstrate how they "purposefully availed" themselves of privileges and protections of doing interstate patent work for plaintiff, and since quantity of defendants' contacts with Iowa alone does not change conclusion that assertion of personal jurisdiction over defendants would be fundamentally unfair.

Action by University of Iowa Research Foundation against Beveridge, DeGrandi, Weilacher & Young L.L.P. and Richard G. Young for professional malpractice. On defendants' motion to dismiss for lack of personal jurisdiction. Granted.

Edmund J. Sease and Jeffrey D. Hart, of Zarley, McKee, Thomte, Voorhees & Sease, Des Moines, Iowa, for plaintiff.

Lee H. Gaudineer and Carlton G. Salmons, of Austin, Gaudineer & Comito, Des Moines; Steven Verveniotis and Mark K. Anesh, of Wilson, Elser, Moskowitz, Edel-

man & Dicker, New York, N.Y., for defendants.

Pratt, J.

Pursuant to the Federal Rules of Civil Procedure 12(b)(2), 12(b)(3), and Local Rule 7.1, defendant moves to dismiss this legal malpractice action for lack of personal jurisdiction and venue. The court heard oral argument on July 30, 1998. The court grants the defendant's motion to dismiss for want of personal jurisdiction. The court does not, therefore, reach the issue of venue.

Background

Plaintiff, the University of Iowa Research Foundation ("UIRF"), is a nonprofit corporation organized under the laws of the State of Iowa having its principal place of business in Iowa City, Iowa. UIRF is charged with obtaining and licensing patents covering inventions arising during the normal course of research and teaching at the University of Iowa.

The two defendants, Beveridge, DeGrandi, Weilacher & Young law firm and one of its partners, Richard G. Young, will be referred to collectively as Beveridge. Beveridge specializes in patent matters and represents clients before the United States Patent and Trademark Office ("PTO"). Its principal place of business is located in Washington, D.C.; Beveridge has no other office in any state.

In 1988, UIRF hired Beveridge to represent UIRF before the PTO in the prosecution and maintenance of U.S. Patent No. 4,900,251 ("the '251 patent").¹ No written contract was ever executed between UIRF and Beveridge with respect to the '251 patent. Young handled the legal work before the PTO associated with the '251 patent. Since 1963, Beveridge has prepared and filed other patent applications on behalf of the UIRF resulting in the issuance of at least 21 patents. In 1985, Beveridge represented UIRF in matters relating to the preparation and filing of U.S. Patent No. 4,037,324 ("the '324 patent"), another orthodontic device. The '251 patent and '324 patents share the same inventor. UIRF claims that Beveridge has managed a foreign patent program relat-

ed to these orthodontic dental devices, presumably on UIRF's behalf.²

UIRF alleges that on or about June 23, 1993, UIRF sent a check to Beveridge instructing Beveridge to pay a maintenance fee to the PTO to extend the term of the '251 patent. The maintenance fee was due in the PTO on February 13, 1994. UIRF alleges that Beveridge negligently failed to pay the maintenance fee for the '251 patent when due, thereby causing the term of the '251 patent to lapse. UIRF alleges further that Beveridge did not tell UIRF of the failure to pay the fee and of the patent's lapse until Beveridge later took action to attempt to remedy the lapse.

On February 2, 1998, UIRF filed suit against Beveridge in this court alleging one count of professional malpractice. Subject matter jurisdiction is based on diversity under 28 U.S.C. § 1332. Venue is claimed proper under 28 U.S.C. § 1391 (1998). UIRF prayed for an unspecified amount of damages to compensate for the loss of royalty payments for licenses granted under the '251 patent, and the costs associated with litigating against infringers' claims of intervening rights. UIRF did not file suit in the District of Columbia.

Beveridge responded by filing its Motion to Dismiss on April 16, 1998. Beveridge asserts that dismissal is warranted because both personal jurisdiction and venue are lacking. As to personal jurisdiction, Beveridge states:

[Beveridge] did not solicit business generally (or representation of the Plaintiff specifically), advertise, travel to, hold property in, perform legal services in, or commit any act which could be deemed malpractice in Iowa. In short, [Beveridge's] contact with the forum state through its correspondence with the Plaintiff was insubstantial in the context of a due process analysis, and thus insufficient to subject [Beveridge] to personal jurisdiction.

(Defs.' Mem. Supp. Mot. Dismiss at 8-9.) Through the affidavit of Richard G. Young ("Young Affidavit"), Beveridge further avers that neither Young nor his law firm is licensed to practice in any state or federal court in Iowa, or resides in Iowa. While Young states that neither he nor any member of his firm traveled into Iowa to meet with representatives of UIRF, an invoice dated September 30, 1985 reveals some member of the law firm traveled to Iowa City in connection with the '324 patent. The

¹ The '251 patent, disclosing an orthodontic dental device, was invented by the late George F. Anderson, a faculty member at the University of Iowa Dental College.

² This "foreign patent program" is not explained in any more detail in UIRF's brief.

ted by Trademark Rule 2.87(c). In fact, application filed will be forwarded to the ITU/Divisional Unit for consideration of the Request to Divide.¹

U.S. Court of Appeals
Federal Circuit
C.R. Bard Inc. v. M3 Systems Inc.

No. 96-1165

Decided September 30, 1998

¹ This decision does not stay the time for the potential opposer to file further Requests for Extension of Time to File a Notice of Opposition. Thus, the potential opposer should continue to file its extension requests while the Request to Divide is pending.

DECISION

Accordingly, the Petition is granted. The

PATENTS

1. Patentability/Validity — Anticipation — Identity of elements (§115.0704)

Verdict that patent claims for biopsy needles are invalid for anticipation is unsupported by substantial evidence, since claimed needles differ from prior art needles in flange structure for coupling needles to biopsy "gun" for movement both toward and away from housing, which is structure that limits all claims, as well as in additional limitation in two claims requiring slit in stylet head flange.

2. Patentability/Validity — Obviousness — Combining references (§115.0905)

Verdict that invention of patent for biopsy needles was obvious in view of prior art is unsupported by evidence, since no prior art provided suggestion or motivation to make needle assembly with structure shown and claimed in patent, and since absent this essential evidentiary component of obviousness holding, verdict of invalidity on that ground cannot stand as matter of law.

3. Practice and procedure in Patent and Trademark Office — Certificate of correction — Correction of named inventor (§110.1205)

Practice and procedure in Patent and Trademark Office — Reissue — In general (§110.1301)

Evidence does not support verdict holding patent invalid on ground that correction of inventorship was improperly made by reissue, since prosecution history shows that error in inventorship was described in reissue application and corrected by appropriate petition, filed and processed while reissue application was pending, since petition to correct inventorship may be filed during reissue proceedings, and since error in inventorship was corrected before reissue patent was granted.

4. Practice and procedure in Patent and Trademark Office — Reissue — In general (§110.1301)

Primary purpose of reissue statute is to enable addition of claims to subject matter not claimed in original patent, and inventor's

failure to appreciate scope of invention at time of original patent grant, and thus initial intent not to claim omitted subject matter, is remediable error.

5. Patentability/Validity — Specification — Written description (§115.1103)

Claims for biopsy gun requiring "sequential energizing" of biopsy needles cannot be held invalid on ground that written description does not describe how to obtain elimination of all overlap of needle movement, since claims must be construed in accordance with rest of specification, not contrary to it, since specification illustrates sequential energizing of needles as having some overlap in movement, since no usage or exemplification of sequential movement in patent requires elimination of all overlap, and since correct interpretation of claims thus allows for slight overlap in needle movement; it is incorrect to construe claims in manner contrary to specification and then hold claims invalid because they are unsupported by written description.

6. Patentability/Validity — Obviousness — Combining references (§115.0905)

Invention of patent for biopsy gun providing mechanical "sequential energizing" or cocking of its two biopsy needles was not obvious over combination of plaintiff's prior biopsy guns, which allowed for sequential manual cocking and mechanical, simultaneous cocking respectively, since no cited reference suggests structure employed in gun of patent, or mechanical sequential energizing, or other features of claimed gun.

7. Infringement — Literal infringement (§120.05)

Patent construction — Claims — Means (§125.1307)

Means plus function claims of patent for biopsy gun providing mechanical "sequential energizing" or cocking of its two biopsy needles are not infringed by accused devices, even though accused guns also perform function of sequential energizing, since claimed structure employing rotational tensioning as energizing means is substantially different from energizing structure in accused gun; existence of other claims in patent which specifically state structure does not warrant finding that "means" claims at issue are not limited to structure in specification, since means-plus-function limitation is not made open-ended by presence of other claims specifically claiming disclosed structure which underlies means clause or equivalent of that structure.

8. Practice and procedure in Patent and Trademark Office — Prosecution — Duty of candor — Materiality (\$110.0903.04)

There is no presumption that information not filed by patent applicant was material simply because patentability ensued, since, to establish culpability for fraud in procurement of patent, any omission must be of fact material to patentability, and it must be deliberate misrepresentation, whether by omission or misstatement, that was intended to and did mislead examiner into taking favorable action that would not otherwise have been taken; intent to deceive or mislead must be established by clear and convincing evidence, and deceptive intent is not inferred simply because information was in existence that was not presented to examiner.

9. Patent misuse — Federal antitrust issues (\$140.07)

There is no presumption that patent-based right to exclude necessarily establishes market power in antitrust terms, since virtually unlimited variety and scope of patented inventions and market situations militate against per se rules; unless patent had been obtained by fraud such that market position had been gained illegally, patent right to exclude does not constitute monopoly power prohibited by Sherman Act.

10. Patent misuse — Improper procurement and enforcement (\$140.03)

Patent misuse — Federal antitrust issues (\$140.07)

Judgment finding antitrust violation cannot be sustained on ground that patentee used fraudulently obtained patent to restrain competition, since establishing liability on such ground requires showing that patent was fraudulently procured, that patentee's related commercial activity was coupled with violations of Sherman Act's Section 2, and that patentee had specific intent to monopolize, engaged in anti-competitive conduct, and had dangerous probability of success, and since, in view of incorrect verdicts of fraud in procurement of patents in suit, judgment cannot be sustained as matter of law.

11. Patent misuse — Improper procurement and enforcement (\$140.03)

Patent misuse — Federal antitrust issues (\$140.07)

Law recognizes presumption, overcome only by affirmative evidence of bad faith, that assertion of duly granted patent is made

in good faith, since, absent showing that lawsuit is objectively meritless, and that suit conceals attempt to interfere directly with competitor's business relationships, patentee must have right to enforcement of duly granted patent, unencumbered by punitive consequences should patent's validity or infringement not survive litigation; judgment finding antitrust violation in present case cannot be upheld on "sham" litigation grounds, since infringement defendant failed to present substantial evidence that litigation was objectively meritless and brought in bad faith.

12. Patent misuse — Improper procurement and enforcement (\$140.03)

Judgment on verdicts finding patent misuse must be reversed, since there was no evidence that infringement plaintiff's competitive activities were either per se patent misuse or that they were not "reasonably within the patent grant," since conduct to which jury instruction on misuse generally referred, namely attempt to enforce patents against goods known not to be infringing, is not subject to collateral attack as new ground of "misuse," in that it is not patent misuse to bring suit to enforce patent rights not fraudulently obtained, and since verdicts thus are not supported by evidence or correct legal theory.

13. Patent misuse — Federal antitrust issues (\$140.07)

Judgment on jury verdict finding antitrust violation based on patentee's modification of biopsy gun to prevent use of competing replacement needles is affirmed, since evidence was sufficient to support jury's specific finding that patentee enjoyed monopoly power in market for replacement needles and its conclusion that patentee maintained its monopoly position by exclusionary conduct; although patentee contended at trial that it modified gun in order to make it easier to load and unload, there was substantial evidence that patentee's real reasons for modification were to raise cost of entry to potential replacement needle makers, to make doctors apprehensive about using competitors' needles, and to preclude use of "copycat" needles.

Particular patents — General and mechanical — Biopsy guns

4,944,308, Akerfeldt, tissue sampling device, judgment of invalidity reversed; judgment of non-infringement affirmed.
Re. 34,056 (of 4,699,154), Lindgren and Akerfeldt, tissue sampling device, judgment

of invalidity affirmed; judgment of non-infringement vacated.

Appeal from the U.S. District Court for the Northern District of Illinois, Bucklo, J. Action by C.R. Bard Inc. against M3 Systems Inc. for patent infringement, in which defendant asserted claims for fraud, violation of antitrust laws, and patent misuse. From judgment for defendant on all issues, plaintiff appeals. Affirmed in part, reversed in part, vacated in part, and remanded.

Opinion for the court by Judge Newman except for Part I.E (on-sale issue) and Part VI.C (attempt to monopolize). Judge Bryson does not join Parts I.A-D of Judge Newman's opinion. The district court's judgment concerning the on-sale bar is affirmed in separate opinions by Chief Judge Mayer and Judge Bryson. The district court's judgment concerning the attempt to monopolize issue is reversed in part by Judge Newman's opinion (Parts VI.A-B), which Chief Judge Mayer and Judge Bryson join, and affirmed in part by Judge Bryson's opinion (Part II), which Chief Judge Mayer joins. Judge Newman dissents with respect to the on-sale bar and attempt to monopolize issues.
Related decisions: 34 USPQ2d 1474; 32 USPQ2d 1335.

John F. Sweeney, Harry C. Marcus, Desiree M. Stahl, Walter G. Hanchuk, Warren H. Rotter, and Steven F. Meyer, of Morgan & Finnegan, New York, N.Y., for plaintiff-appellant.

Richard D. Harris, Max Shafital, Jordan A. Sigale, and Jovan N. Jovanovic, of Dick & Harris, Chicago, Ill.; Paul E. Slater and Greg Shinali, of Sperling, Slater & Spitz, Chicago, for defendant-appellee.

Before Mayer, chief judge, and Newman and Bryson, circuit judges.

Newman, J.

In suit are United States Patent No. 4,944,308 issued July 31, 1990 (the '308 patent) and United States Reissue Patent No. RE 34,056 issued September 8, 1992 (the '056 patent), both entitled "Tissue Sampling Device." These patents originated with the work of Dr. Per Gunner Lindgren, a physician in Sweden, and are now owned by appellant C.R. Bard, Inc.

The patented inventions are devices for taking samples of body tissue for biopsy

purposes, wherein a biopsy needle firing device or "gun" mechanically injects a biopsy needle assembly into the core body tissue. These devices are described as improving the speed, accuracy, ease, and patient comfort of tissue sampling, compared with manually inserted biopsy needles. They are said to be particularly advantageous for sampling small or movable lesions and fibrous or firm tissues, because the rapidly and firmly fired needles can penetrate even fibrotic lesions before the lesions can slip aside. The patented guns and needles have achieved commercial success.

Bard sued M3 Systems in August 1993 in the United States District Court for the Northern District of Illinois, asserting that M3's ProMag biopsy gun and ACN/SACN biopsy needle assemblies infringed the '308 and '056 patents, respectively. M3 raised the defenses that the patents are invalid on several grounds and are not infringed, and also charged Bard with fraud, antitrust law violation, and patent misuse. The jury rendered special verdicts in favor of M3 on every issue, finding the '056 patent invalid and not infringed on each of the grounds of anticipation, obviousness, violation of a section 102(b) bar, incorrect naming of inventors, and non-compliance with reissue requirements; and finding the '308 patent invalid and not infringing on grounds of anticipation, obviousness, and insufficient written description. The jury also found that Bard perpetrated fraud in the Patent and Trademark Office (PTO) in obtaining both patents, that Bard misused both patents, and that Bard violated antitrust law, awarding \$1.5 million in antitrust damages, trebled by the district court.

The district court denied all post-trial motions. This appeal followed. This court affirms the judgment of invalidity of the '056 patent and vacates the judgment of non-infringement of the '056 patent. The judgment of invalidity of the '308 patent is reversed and the judgment of noninfringement is affirmed. The judgments of misuse and fraud are reversed. The judgment of antitrust violation on the ground of attempt to monopolize is affirmed, but the antitrust damages award is vacated, for redetermination upon remand.

¹ C.R. Bard, Inc. v. M3 Sys., Inc., No. 93-CV-4788 (N.D. Ill. Oct. 2 & Dec. 20, 1995) (orders).

THE PATENTED INVENTIONS

The First Generation Device — The PCT Patent Application

In 1981 Dr. Lindgren, working in Sweden with Jan Allard, an engineer, designed and constructed the first of several successively improved mechanical biopsy guns. This "first generation" gun was designed to fire a commercially available biopsy needle assembly made by the Baxter Travenol Company, having the brand name "Tru-Cut." The Tru-Cut is a double needle consisting of a hollow outer needle called the cannula and an inner needle called the stylet. The stylet is solid except for a recess near its point. In the manual procedure for which the Tru-Cut was designed, the physician would first extend the stylet and insert the assembly into the body tissue, whereupon the tissue to be sampled would flow into the recess in the stylet; the physician would then push the cannula into the body tissue to surround the stylet and cut and trap the tissue sample in the recess.

This procedure required the physician to use both hands to manipulate the needles, while a second physician would hold and manipulate the ultrasound equipment that is usually required to view the interior of the body and direct insertion of the needles. Dr. Lindgren sought to mechanize this procedure in order to improve the speed and accuracy of insertion, to reduce human error, and to permit a physician to perform the biopsy without assistance by providing a sampling device that can be operated with one hand while the other hand holds the ultrasound apparatus.

The first generation gun is a box-like structure fitted with two spring-loaded drivers associated with slots that are configured to hold the cannula and stylet of the Tru-Cut needle assembly. To use this gun the physician must first "cock" each of the spring-loaded drivers. This cocking action, as it was often called at trial, is referred to as pre-tensioning or energizing in the patent documents. Cocking is performed by hand or with a specially designed tool described as a miniature crowbar. After the drivers are cocked, the stylet and cannula are placed in the appropriate slots and the gun housing is closed. The gun is then aimed at the target tissue and a trigger mechanism releases the stylet and cannula in rapid sequence. The needles are then manually retrieved.

Dr. Lindgren and Mr. Allard filed a patent application on the first generation gun under the Patent Cooperation Treaty (PCT). The invention was assigned to Radiplast AB, a small Swedish company associated with

Dr. Lindgren. The PCT application was filed on March 31, 1982 and was published on October 13, 1983. It is prior art to the United States patents in suit.

The Second Generation — The '056 Reissue Patent

Starting in 1984, Dr. Lindgren undertook to improve the gun so that it could not be necessary for the physician to cock the two drivers manually before installing the biopsy needles, a step described as awkward and inefficient. In 1985 Dr. Lindgren, working with Dan Akerfeldt, an engineer, designed a mechanism whereby the drivers are cocked by external action after the needles are placed in the gun and the housing is closed. In this mechanism rods are attached to each of the spring-loaded drivers, extend out the back of the gun, and culminate in a ring or handle. By pulling the ring or handle the operator simultaneously cocks both drivers, moving the needles rearward. A trigger mechanism then fires the stylet and cannula in rapid sequence, into the tissue to be sampled.

The Tru-Cut needles were not usable with the second generation gun, for their structure was such that they could not be moved rearward as well as propelled forward. New needles were designed with a modified hub and flange structure and a slit in the stylet to facilitate placement in the gun. Corresponding structural changes were made to the gun to accommodate the changes in the needles. Radiplast, as assignee, filed a patent application in Sweden on February 19, 1986. The United States application was filed on July 30, 1986, naming Dr. Lindgren as the inventor. Corresponding United States Patent No. 4,699,154 (the '154 patent) was issued on October 13, 1987, with claims to the combination of the second generation gun and the new needle assembly. The '154 patent did not claim the needle assembly alone.

In 1989 Bard, having become Radiplast's distributor in 1987, acquired ownership of the Radiplast patents. Bard applied for reissue of the '154 patent in order to add claims to the needle assembly alone. This reissue patent issued on September 8, 1992, and is the '056 patent in suit. During the reissue proceeding Bard and Dr. Lindgren petitioned the PTO to correct the inventorship to include Dan Akerfeldt. In addition, Bard described to the PTO various activities of Radiplast in the United States, as shall be discussed in connection with the on-sale issue.

The Third Generation Gun — The '308 Patent

Dan Akerfeldt continued to work on improving these devices. He sought to make the gun easier to use, especially by inexperienced physicians. Because pulling the cocking ring required significant manual force to overcome the simultaneous resistance of both driver springs, he designed an external integrated, cocking mechanism that energized the two springs sequentially, thereby requiring less force than did the simultaneous cocking mechanism of the second generation gun. The third generation gun also provided for separate rearward movement of the needles after the biopsy sample was taken, thereby facilitating removal of the tissue from the stylet. Radiplast applied for a United States patent on the third generation gun on November 14, 1988, naming Dan Akerfeldt as inventor. The patent issued in 1990 and is the '308 patent in suit.

I

VALIDITY OF THE '056 REISSUE PATENT

Bard charged M3 Systems with infringement of claims 9-12 and 21-23 of the '056 patent. M3 had the burden of establishing invalidity by clear and convincing evidence at trial. *Carella v. Starlight Archery*, 804 F.2d 135, 138, 231 USPQ2d 644, 646 (Fed. Cir. 1986). On review, the appellate court must "decide for ourselves whether reasonable jurors viewing the evidence as a whole could have found the facts needed to support the verdict in light of the applicable law." *Lenelson v. General Mills, Inc.*, 968 F.2d 1202, 1207, 23 USPQ2d 1284, 1288 (Fed. Cir. 1992). The appellant must establish that the jury's actual or inferred factual findings were not supported by substantial evidence, or that the found or inferred facts were not sufficient to support the conclusion, or that the law was incorrectly applied. See, e.g., *Applied Med. Resources Corp. v. United States Surgical Corp.*, 147 F.3d 1374, 1376, 47 USPQ2d 1289, 1290 (Fed. Cir. 1998); *D.M.I. Inc. v. Deere & Co.*, 802 F.2d 421, 425, 231 USPQ2d 276, 278 (Fed. Cir. 1986).

When a claim or defense can not be maintained or defeated without a favorable finding on a material issue, and there is not substantial evidence supporting that finding, the verdict can not stand and the court must render judgment as a matter of law. See Fed. R. Civ. P. 50; *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 251-52 (1986); see gener-

ally *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 975, 34 USPQ2d 1321, 1326 (Fed. Cir. 1995) (in banc), *aff'd*, 517 U.S. 370, 38 USPQ2d 1461 (1996). The appellate court must determine whether the evidence of record a jury might properly have returned a verdict in the non-movant's favor when the correct legal standard is applied. If not, the movant was entitled to have the question removed from the jury and decided as a matter of law.

We apply these principles to each of the grounds on which the jury rendered verdicts of invalidity of the asserted '056 claims. We direct our discussion of validity primarily to claim 21, for the claim is representative and M3 Systems' expert witnesses admitted infringement of claim 21 by M3's original ACN needles:

21. A biopsy needle for use with a tissue sampling device having a housing with a forward end, a first slide mounted for longitudinal motion within said housing, and a second slide mounted for longitudinal motion within said housing, said biopsy needle comprising:

a hollow first needle having proximal and distal ends;

a second needle extending through said hollow first needle and freely slidable therewithin, said second needle having proximal and distal ends;

a first head mounted to said proximal end of said hollow first needle, said first head including first flange means associated therewith for coupling said hollow first needle to said first slide for longitudinal motion both toward and away from said forward end of said housing; and

a second head mounted to said proximal end of said second needle, said second head including second flange means associated therewith for coupling said second needle to said second slide for longitudinal motion both toward and away from said forward end of said housing.

A. Anticipation

To meet the requirements of patentability a device must be new; that is, it must not have been previously known. Section 102(a) requires that the subject matter was not published anywhere, or known or used by others in the United States, before its invention by the patentee. An invention that

is §102. A person shall be entitled to a patent unless—

(a) the invention was known or used in this country, or patented or printed publication in this or a

does not meet the requirements of novelty in section 102(a) is said to be "anticipated."

When the defense of lack of novelty is based on a printed publication that is asserted to describe the same invention, a finding of anticipation requires that the publication describe all of the elements of the claims, arranged as in the patented device. *Shearing v. Tolab Corp.*, 975 F.2d 1541, 1544-45, 24 USPQ2d 1133, 1136 (Fed. Cir. 1992); *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989); *Perkin-Elmer Corp. v. Computer-Vision Corp.*, 732 F.2d 888, 894, 221 USPQ 669, 673 (Fed. Cir. 1984). The jury found that all of the claims at issue were "fully anticipated by a single prior art reference." Bard states that no reference described the new biopsy needle assembly of the '056 patent, and that the closest prior art, which all agree is the Traveler Tru-Cut needle assembly, differs in material ways. M3 Systems states that the Tru-Cut (or a publication describing the Tru-Cut) anticipated the claimed needle assembly because the '056 claims, correctly construed, read on the Tru-Cut.

The district court declined to construe all of the claim terms that were placed in dispute, instructing the jury that "words in a claim are to be given their ordinary and accustomed meaning, unless it appears that the inventor intended to use them differently. . . . You may use the specification to interpret what the patentee meant by a word or phrase in a claim." The record shows that the court defined some terms and the parties explained their views to the jury. This procedure was not incorrect at the time this case was tried — for as the court observed, the question of the relative roles of judge and jury was then before the Supreme Court — and does not of itself warrant a new trial. On appellate review, however, we apply the principles of *Cubor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1454-56, 46 USPQ2d 1169, 1172-75 (Fed. Cir. 1998) (in banc), and determine whether on the correct claim construction the jury verdict can stand. See *United States Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568, 41 USPQ2d 1225, 1236 (Fed. Cir.) (reviewing whether the verdict reached was in accordance with correct claim construction), cert. denied, 118 S. Ct. 369 (1997).

1. The Term "Freely Slidable"

before the invention thereof by the applicant for patent. . . .

invention, as in *Bell Communications Research, Inc. v. Vitalink Communications Corp.*, 55 F.3d 615, 620, 34 USPQ2d 1816, 1820 (Fed. Cir. 1995). In this case, however, the preamble simply states the intended use or purpose of the invention, as in *Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861, 868, 228 USPQ 90, 94 (Fed. Cir. 1985). Such a preamble usually does not limit the scope of the claim unless the preamble provides antecedents for ensuing claim terms and limits the claim accordingly. In *Vaupel Textilmaschinen KG v. Meccanica Euro Italia S.p.A.*, 944 F.2d 870, 880, 20 USPQ2d 1045, 1053 (Fed. Cir. 1991), for example, the preamble described a "reference point" that provided guidance in understanding and construing the claim.

In the case at bar, the preamble of claim 21 recites the portion and structure of the gun housing into which the needles fit, and provides reference points in the gun that aid in defining the needles as set forth in the body of the claim. M3 Systems is incorrect in stating that the preamble must contain details of the integrated mechanical cocking structure, for the gun structure is not part of the separate claims to the needles. The question of anticipation of the '056 claims relates to the needles, not the gun. To the extent that the jury verdicts of anticipation may have been based on M3's incorrect construction of the preamble, they can not be sustained. On the correct construction of the preamble, it contributes no basis of invalidity on the ground of anticipation.

3. The On-sale Bar and "Anticipation"

M3 Systems defends these anticipation verdicts by arguing that the asserted claims are anticipated because they are subject to an on-sale bar. Although 35 U.S.C. §102(b) provides that an inventor's sales or offers of sale more than one year before the patent filing date may bar the grant of a valid patent, the on-sale bar is an independent ground of invalidity based on the inventor's delay in entering into the patent system. Although the on-sale bar can arise from one's own invention, "anticipation" does not arise from sale of one's own invention. We discuss the on-sale issue *post*; however, this aspect is unrelated to the "anticipation" ver-

§102 A person shall be entitled to a patent unless—

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States. . . .

dicts; was not part of the jury instruction on that issue, and is not based on correct law.

Conclusion

[I] In sum, M3 Systems directs us to no prior art or prior knowledge or use by others that constitutes substantial evidence of anticipation of the needles claimed in the '056 patent. M3's witnesses conceded that the '056 needles differ from the Tru-Cut in the flange structure for coupling to the gun for movement both toward and away from the housing, a structure that limits all claims, as well as in the additional limitation in claims 10 and 12 of a slit in the stylet head flange. It is not disputed that the Tru-Cut needle assembly lacks these elements. In view of these admitted differences between the '056 needles and the prior art, differences unambiguously stated in the '056 claims, the verdicts of anticipation are unsupported by substantial evidence. The judgment of invalidity on this ground is reversed.

B. Obviousness

Invalidity based on obviousness is a question of law based on underlying facts. See *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966); *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1566-68, 1 USPQ2d 1593, 1595-97 (Fed. Cir. 1987). The relevant facts relate to (1) the scope and content of the prior art, (2) the level of ordinary skill in the field of the invention, (3) the differences between the claimed invention and the prior art, and (4) any objective evidence of nonobviousness such as long felt need, commercial success, the failure of others, or copying. *Graham*, 383 U.S. at 17, 148 USPQ at 467; see *Continental Can Co. USA, Inc. v. Monsanto Co.*, 948 F.2d 1264, 1270, 20 USPQ2d 1746, 1750-51 (Fed. Cir. 1991).

The ultimate determination of obviousness *vel non* is a legal conclusion. See *Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 297 n.24, 227 USPQ 657, 667 n.24 (Fed. Cir. 1985). When a patent describes a new mechanical device that can be viewed as a new combination or arrangement of mechanical components, the legal conclusion of obviousness requires that there be some suggestion, motivation, or teaching in the prior art whereby the person of ordinary skill would have selected the components that the inventor selected and used them to make the new device. See *Heidelberg Druckmaschinen AG v. Hanisch Commercial Prods., Inc.*, 21 F.3d 1068, 1072, 20 USPQ2d 1377, 1379 (Fed. Cir.

1993) ("When the patented invention is made by combining known components to achieve a new system, the prior art must provide a suggestion or motivation to make such a combination."); *Northern Telecom, Inc. v. Datapoint Corp.*, 908 F.2d 931, 934, 15 USPQ2d 1321, 1323 (Fed. Cir. 1990) (it is insufficient that prior art shows similar components, unless it also contains some teaching, suggestion, or incentive for arriving at the claimed structure). We review a jury verdict of obviousness to determine whether substantial evidence supports the factual findings predicate to the legal conclusion of obviousness and whether such findings can support the verdict, with appropriate consideration of the presumption of validity and the requirement that obviousness be proved by clear and convincing evidence; factual inferences are drawn and credibility determinations are accepted in favor of the verdict winner. See *Richardson-Vicks Inc. v. Upjohn Co.*, 122 F.3d 1476, 1480, 44 USPQ2d 1181, 1183-84 (Fed. Cir. 1997); *Structural Rubber Prod. Co. v. Park Rubber Co.*, 749 F.2d 707, 718-19, 223 USPQ 1264, 1273 (Fed. Cir. 1984).

M3 Systems argued at trial that the patented needle assembly would have been obvious in light of the Tru-Cut needle assembly, and that the only differences arose from obvious adaptations to accommodate the new gun design and to provide the desired reverse movement of the needles. No other prior art was presented. The invention that was made, however, does not make itself obvious; that suggestion or teaching must come from the prior art. See, e.g., *Uniroval, Inc. v. Rudkin-Wiley Corp.*, 839 F.2d 1044, 1051-52, 5 USPQ2d 1434, 1438 (Fed. Cir. 1988) (it is impermissible to reconstruct the claimed invention from selected pieces of prior art absent some suggestion, teaching, or motivation in the prior art to do so); *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1143, 227 USPQ 543, 551 (Fed. Cir. 1985) (it is insufficient to select from the prior art the separate components of the inventor's combination, using the blueprint supplied by the inventor); *Fromson v. Advance Offset Plate, Inc.*, 755 F.2d 1549, 1556, 225 USPQ 26, 31 (Fed. Cir. 1985) (the prior art must suggest to one of ordinary skill in the art the desirability of the claimed combination).

[2] No prior art provided a teaching or suggestion or motivation that a needle assembly should be made with the structure shown and claimed in the '056 patent. Absent this essential evidentiary component of an obviousness holding, as a matter of law the verdicts of invalidity on that ground can

not stand. Consequently, the judgment of invalidity based on obviousness is reversed.

C. Inventorship

The jury rendered special verdicts of invalidity of the asserted '056 claims on the ground of incorrect inventorship. Inventorship is a question of law, applied to relevant facts. Findings of relevant fact are reviewed on the standard appropriate to the trier of fact, in this case for substantial evidence. See *Hess v. Advanced Cardiovascular Sys., Inc.*, 106 F.3d 976, 980, 41 USPQ2d 1782, 1786 (Fed. Cir. 1997). The application of law to the found or admitted facts is reviewed on appeal without deference to the trier of fact. See *Ethicon, Inc. v. United States Surgical Corp.*, 135 F.3d 1456, 1460, 45 USPQ2d 1545, 1547 (Fed. Cir. 1998); *Sewall v. Walters*, 21 F.3d 411, 415, 30 USPQ2d 1356, 1358 (Fed. Cir. 1994).

The "inventor," in patent law, is the person or persons who conceived the patented invention. *Collar Co. v. Van Dusen*, 90 U.S. (23 Wall.) 530, 563-64 (1874); *Burroughs Wellcome Co. v. Barr Lab., Inc.*, 40 F.3d 1223, 1227-18, 32 USPQ2d 1915, 1919 (Fed. Cir. 1994) ("Conception is the touchstone of inventorship.") Thus facts relevant to inventorship are those showing the conception of the invention, for others may provide services in perfecting the invention conceived by another without becoming an "inventor" by operation of law. *Id.*; *Agawam Co. v. Jordan*, 74 U.S. (7 Wall.) 583, 602-04 (1868); *Hess*, 106 F.3d at 980-81, 41 USPQ2d at 1786-87. As explained in *Shattlerproof Glass Corp. v. Libbey-Owens Ford Co.*, 785 F.2d 613, 624, 225 USPQ 634, 641 (Fed. Cir. 1985), "an inventor may use the services, ideas, and aid of others in the process of perfecting his invention without losing his right to a patent."

An assertion of incorrect inventorship must be based on facts proved by clear and convincing, corroborated evidence. *Hess*, 106 F.3d at 980, 41 USPQ2d at 1786. The difficulty of determining legal inventorship has been recognized. See *Jamesbury Corp. v. United States*, 518 F.2d 1384, 1396, 183 USPQ 484, 489 (Ct. Cl. 1975) (inventorship is one of the most difficult issues in American patent law) and, to avoid inadvertent invalidity, 35 U.S.C. §256 permits correction of the designated inventorship of a patent when an error was made without deceptive intent.

§256 Whenever through error a person is named in an issued patent as the inventor,

or through error an inventor is not named in an issued patent and such error arose without any deceptive intention on his part, the Commissioner may, on application of all the parties and assignees, with proof of the facts and such other requirements as may be imposed, issue a certificate correcting such error.

See *Stark v. Advanced Magnetics, Inc.*, 119 F.3d 1551, 1556, 43 USPQ2d 1321, 1325 (Fed. Cir. 1997) (error in inventorship may be corrected at any time if no deceptive intent).

The '154 patent as filed in the United States had named Dr. Lindgren as sole inventor. In the course of the reissue proceeding Dr. Lindgren filed a petition in the PTO to add Dan Akerfeldt as a joint inventor. Lindgren and Akerfeldt each filed declarations explaining their roles in the invention and declaring that the omission in naming Akerfeldt was due to differences between United States and Swedish patent law, and was not done with intent to deceive.

M3 Systems challenged the joint inventorship of Lindgren and Akerfeldt, and also stated that neither one was an inventor of the '056 patent's needles, but that Alan Taylor, President of Hart Enterprises, the company Radplast retained to manufacture its new needles in the United States, was the sole inventor. Although Mr. Taylor did not appear at the trial, he stated in a deposition that he was not an inventor, but that he suggested the slot in the stylet flange to cooperate with a guide pin in the gun and prevent rotation of the needle. He said he sketched his design for Mr. Engström, although such a sketch was not produced. M3 states that Mr. Taylor gave written notice of his claim in 1990, before the reissue application was filed, but the record citations in M3's brief do not direct us to such notice.

It has long been the rule that one who asserts "inventor" status must provide clear and convincing evidence of supporting facts, including corroborating evidence. See *Woodland Trust v. Flower Tree Nursery, Inc.*, 148 F.3d 1368, 1371, 47 USPQ2d 1363, 1366 (Fed. Cir. 1998) (illustrating the historical distrust of uncorroborated oral testimony of prior invention and citing the "rule of reason" analysis of corroborating evidence in *Price v. Symysk*, 988 F.2d 1187, 1194, 26 USPQ2d 1031, 1036 (Fed. Cir. 1993)). At the trial Mr. Engström disputed Mr. Taylor's statements, and the earliest depiction introduced of the flange with a slot was a Swedish document.

Alternatively, M3 Systems points to the design patents that were filed in the name of

Akerfeldt alone, as establishing that Dr. Lindgren was not a joint inventor of the needles with Akerfeldt. Bard replies, and there is no dispute, that the design patents showed specific hub designs not shown in the utility patent. Whether Akerfeldt was the sole inventor of specific hub designs does not negate his joint inventorship of the needles of the '056 patent, which are depicted and claimed broadly. Bard also stresses that if indeed there were error in inventorship, such errors are correctable and do not invalidate the patent absent deceptive intent. To invalidate a patent based on incorrect inventorship it must be shown not only that the inventorship was incorrect, but that correction is unavailable under section 256:

§256 [12] The error of omitting inventors or naming persons who are not inventors shall not invalidate the patent in which such error occurred if it can be corrected as provided in this section. . . .

Although M3 contends that deceptive intent can be inferred from the omission of Taylor as an inventor, precedent requires that one who claims a share of inventorship must establish that right by clear and convincing evidence. *Ethicon*, 135 F.3d at 1463-66, 45 USPQ2d at 1552; *Hess*, 106 F.3d at 980, 41 USPQ2d at 1785-86. Since such evidence was absent, the judgment of invalidity based on incorrect inventorship can not stand, and is reversed.

D. Violation of Reissue Requirements

The jury also found by special verdicts that the asserted '056 claims were invalid on the ground that the reissue requirements were not met. M3 Systems explains in its brief that the jury found that "any purported error in the '154 patent could not be corrected by reissue," explaining that the errors were the error in inventorship and the error in failing to claim the needles in the original '154 patent.

[3] With respect to the argument that the correction of inventorship was improperly made by reissue, we have been directed to no legal or procedural error, for the prosecution history clearly shows that the error in inventorship was described in the reissue application and corrected by appropriate petition, filed and processed while the reissue application was pending. A petition to correct inventorship, 37 C.F.R. §1.324 (1991), may be filed during reissue proceedings. The error in inventorship was corrected before the reissue patent names Lindgren and Akerfeldt as the inventors. This procedure can not have provided ground for a reasonable jury's verdicts

of invalidity based on violation of reissue requirements.

[4] The other aspect that M3 Systems argued was not amenable to correction by reissue was the addition of claims to the needles per se. That argument incorrectly states the reissue law, for a primary purpose of the reissue statute is to enable the addition of claims to subject matter not claimed in the original patent. See *Scriptis Clinic & Res. Found'n v. Genentech, Inc.*, 927 F.2d 1563, 1575, 18 USPQ2d 1001, 1009 (Fed. Cir. 1991) (purpose of reissue statute is to avoid forfeiture of substantive rights due to erroneously claiming less than entitled, through error without intent to deceive); *In re Wilder*, 736 F.2d 1516, 1518-19, 222 USPQ 369, 371-72 (Fed. Cir. 1984) (purpose of reissue is to correct errors such as misunderstanding scope of the invention and claiming less than that to which the inventor was entitled).

M3 Systems states that since the needles were not claimed originally they were not "intended" to be claimed, and that absence of such intent is not an error correctable by reissue. That too is an incorrect statement of the law. An inventor's failure to appreciate the scope of an invention at the time of the original patent grant, and thus an initial intent not to claim the omitted subject matter, is a remediable error. See *In re Amos*, 953 F.2d 613, 619, 21 USPQ2d 1271, 1276 (Fed. Cir. 1991) (reissue application not subject to rejection for failure to demonstrate initial intent to claim, when subject matter of reissue claims satisfies §112 requirements); *In re Weiler*, 790 F.2d 1576, 1581, 229 USPQ 673, 676-77 (Fed. Cir. 1986) ("intent to claim" is shorthand for a means of measuring whether required error is present); *In re Hounsfield*, 699 F.2d 1320, 1322, 216 USPQ 1045, 1048 (Fed. Cir. 1983) (lack of "intent to claim" is only one factor to be considered).

M3 Systems also argues that the error in failing to claim the needles should have been corrected sooner. The reissue statute sets a two-year time limit for filing a broadening reissue application. This requirement was met. See 35 U.S.C. §251; *In re Graff*, 111 F.3d 874, 877, 42 USPQ2d 1471, 1473-74 (Fed. Cir. 1997) (broadened claims must be filed within two years); see also 37 C.F.R. §1.175 (1991). There is no requirement that a patentee act earlier rather than later during the two-year window established by statute.

M3 Systems has stated no basis in fact or law for its assertion that any reissue procedure was violated. The verdicts of invalidity

on this ground are unsupported in law, and judgment based thereon is reversed.

E. The On-Sale Issue

The jury also found that the asserted '056 claims were invalid on the ground that the new needle assembly had been "patented or published or in public use or on sale" in the United States more than one year before the filing date of the '154 patent application in the United States. See 35 U.S.C. §102(b), *supra* note 3. Since that filing date was July 30, 1986, the critical date for bar purposes is July 30, 1985.

Although the special verdicts did not distinguish among the statutory grounds of patented or published or in public use or on sale, the major focus at trial and on appeal is the issue of on sale. While M3 Systems also argued that there was a bar based on publication and public use, the only evidence referred to relates to the first generation gun and the Tru-Cut needles, which are acknowledged prior art and are not claimed in the patents in suit. M3's argument at trial that these prior art devices were also a bar to the '056 claims under section 102(b) is not pressed on appeal.

The '154 and '056 patents are directed to the second generation gun and new needles. Before the critical date, indeed before the development of the second generation gun and new needles had been completed, Radiplast was engaged in a variety of activities directed to the United States market. These activities included demonstrating and promoting the first generation gun with the Tru-Cut needles, pursuing arrangements for clinical trials for the second generation gun and new needles through collaboration with a potential United States distributor, applying for FDA approval, arranging for manufacturing of the needles in the United States, and related activities directed to commercial goals. Although Radiplast's final needle design was developed after the critical date, the issue at trial was the effect of these prior activities under the law of section 102(b).

Federal Circuit precedent on the on-sale bar requires consideration by the court of the totality of the circumstances in light of the various policies that underlie the bar. Precedent explains that "while a wide variety of factors may influence the on sale determina-

* This section is the dissenting opinion of Judge Newman. The court affirms the judgment of invalidity for violation of the on-sale bar, in separate opinions of Chief Judge Mayer and Judge Bryson.

tion, no single one controls the application of section 102(b), for the ultimate conclusion depends on the totality of the circumstances." *Ferag AG v. Quipp, Inc.*, 45 F.3d 1562, 1566, 33 USPQ2d 1512, 1514 (Fed. Cir. 1995); see *Envirotech Corp. v. Westech Eng'g, Inc.*, 904 F.2d 1571, 1574, 15 USPQ2d 1230, 1232 (Fed. Cir. 1990).

Although a few cases have recognized the advantages of a bright line rule that would be applicable in all cases, that is, a defining event whereby an inventor will know when the bar will accrue, generally the court has undertaken to weigh the particular facts of the commercial activity against the particular policy considerations that apply to the situation, giving effect to the principle that "the policies or purposes underlying the on sale bar, in effect, define it." *RCA Corp. v. Data General Corp.*, 887 F.2d 1056, 1062, 12 USPQ2d 1449, 1454 (Fed. Cir. 1989).

Thus, in general, "this court has been careful to avoid erecting rigid standards for 102(b)." *Western Marine Elecs. Inc. v. Furuno Elec. Co.*, 764 F.2d 840, 844, 226 USPQ 334, 337 (Fed. Cir. 1985); see *Petrolite Corp. v. Baker Hughes, Inc.*, 96 F.3d 1423, 1425, 40 USPQ2d 1201, 1203 (Fed. Cir. 1996) ("This court has emphasized that the totality of the circumstances must be considered in determining whether a particular event creates an on-sale or public use bar." (quoting *U.S. Environmental Prods., Inc. v. Westall*, 911 F.2d 713, 716, 15 USPQ2d 1898, 1901 (Fed. Cir. 1990))).

The determination of whether a product was on sale in terms of section 102(b) is a question of law. See *Micro Chem., Inc. v. Great Plains Chem. Co.*, 103 F.3d 1538, 1544, 41 USPQ2d 1238, 1243-44 (Fed. Cir. 1997) (discussing precedent and applying the totality of the circumstances standard as a matter of law); *KeyStone Retaining Wall Sys., Inc. v. Westrock, Inc.*, 997 F.2d 1444, 1445, 27 USPQ2d 1297, 1303 (Fed. Cir. 1993) (explaining relevant factual inquiries); *Baker Oil Tools, Inc. v. Geo Vann, Inc.*, 828 F.2d 1558, 1562-64, 4 USPQ2d 1210, 1213-14 (Fed. Cir. 1987) (discussing various factors to be weighed in context of experimental testing by third persons).

The various policy considerations include the policy of providing a limited but normally sufficient time (one-year) for the inventor to test the commercial reception of the invention before deciding whether it warrants patenting; the policy of limiting the period during which the patentee may delay entering into the patent system for the purpose of deferring the end of the period of patent-based exclusivity; the policy favoring prompt public disclosure of inventions

through the patent system; and the policy of recognizing the practical consideration whereby the value of an invention may not be known until it is publicly tested. Depending on the dominant policy considerations in the particular case, applied to the factual circumstances of that case, the Federal Circuit has reached a variety of conclusions as to when the on-sale bar arose. The court's precedent illustrates rulings ranging from the requirement that the patented product was produced and available commercially before the on-sale bar started to accrue, to rulings that the bar was triggered before the invention had been completed.

Before the critical date for the '056 patent, July 30, 1985, three sets of events were explored at trial. The facts are not in dispute; the question is whether, as a matter of law, the on-sale bar arose in these circumstances:

1. The Clinical Trials

The clinical trials were arranged by American Pharmaseal, Radiplast's potential distributor in the United States, and were conducted in August and September 1985 (after the critical date) using the second generation guns and new needles. In January 1985 Thomas Engström of Radiplast had quoted to Pharmaseal the price for 12 guns and 500 needles for use in the trials. Pharmaseal later that spring requested 10 guns and 250 needles, for which Radiplast sent an invoice in June 1985. Mr. Engström testified that this payment was to defray some of Radiplast's costs in providing these devices, and was so understood. It was not disputed that the transaction produced no profit for Radiplast.

M3 Systems asserts that Radiplast sold the 10 guns and 250 needles to Pharmaseal, pointing out that a standard sales invoice was used. Bard replies that this was a transaction between collaborators, not a commercial sale and not a sale for commercial distribution. Dr. Lindgren testified that he visited the four United States hospitals that were testing the device (after the critical date), to explain its use and to see how it worked in different tissues, operated by different doctors. Bard stresses that the devices were not sold, that all but one were returned by the hospitals after the clinical trials, and unused needles were destroyed.

Generally cost defrayal arrangements between collaborators are not deemed to be invalidating sales, nor are payments for use substantially for test purposes. See *In re Mahurkar*, 71 F.3d 1573, 1577, 37 USPQ2d 1138, 1142 (Fed. Cir. 1995) (actual sale of two prototype catheters "did not place the

invention in the public domain or lead the public to believe that the device was freely available"); *Ethicon, Inc. v. United States Surgical Corp.*, 762 F. Supp. 480, 506-07, 19 USPQ2d 1721, 1740 (D. Conn. 1991) (clinical tests by surgeon not a public use under §102(b)); *aff'd*, 765 F.2d 1062 (Fed. Cir. 1992) (Table); *Baker Oil Tools*, 928 F.2d at 1564, 4 USPQ2d at 1214 (discussing factors in deciding whether the purpose of testing was primarily experimental). In its submissions to the PTO during the reissue proceeding, Radiplast characterized the transaction concerning the 10 guns and 250 needles as for experimental purposes.

It is not disputed that the sole purpose of this transaction was to make the devices available to the four selected hospitals for a limited test period. Radiplast's arrangement with Pharmaseal for payment or defrayal of the cost of providing the devices was not a sale or offer of sale as contemplated by section 102(b). It contravenes none of the policies underlying the on sale bar for Radiplast to have recouped these costs. Upon considering the totality of the circumstances, I conclude that an on-sale bar did not arise based on this transaction between Radiplast and Pharmaseal in connection with the clinical trials.

2. The Bulk Price Quotation

In January 1985 Radiplast quoted to Pharmaseal prices for various bulk quantities of up to 50,000 needles. At that time the new needles were still being modified, and the record shows that design changes were made well after January 1985. Mr. Engström of Radiplast testified that the quotation was information for a potential distributor, in the event that Pharmaseal accepted that role (it did not). The bulk price quotations were in a telex that stated, "This is to give you an indication of the price levels. We have to meet and discuss more in detail all things related with the marketing of our biopsy instrument in US." It was not disputed that the quotation was for modified needles, and that both parties understood that the modified needles were not yet available.

M3 Systems argues that since the first generation device had been shown to operate for its intended purpose using Tru-Cut needles, the inventor had already convinced himself that he had a satisfactory product that he wished to commercialize in the United States, and thus that the bulk price quotation, even if for needles not yet developed, was an on-sale event. M3 stresses that the price quoted for bulk quantities included a

profit for Radiplast, unlike the price for the clinical trial quantities.

Quotation of a sales price to a potential distributor of a product that is not available for sale and distribution does not of itself establish an on-sale bar. See *Continental Can*, 948 F.2d at 1270, 20 USPQ2d at 1750 (price terms set between collaborators in joint research not an on-sale bar). *Shatterproof Glass*, 758 F.2d at 622, 225 USPQ2d 639 ("clear weight of authority is that a bare offer to sell does not ipso facto satisfy the on sale bar"). A primary policy served by the on-sale bar is to provide time for an inventor to determine the reception of his invention in the marketplace before entering into the patent system, while the one-year limit prevents undue lengthening of the period of exclusivity. The policy is served when cognizance is taken of whether the invention is ready for commercial use at the time that customer contacts are made. Although exceptions have arisen on particular facts, normally the on-sale bar does not accrue based on customer contacts made while the product is still being developed or tested. See *KeyStone*, 997 F.2d at 1451, 27 USPQ2d at 1303 (on-sale bar "requires that the device asserted to be on sale was operable"); *Seal-Flex, Inc. v. Athletic Track & Court Constr.*, 98 F.3d 1318, 1322, 40 USPQ2d 1450, 1452 (Fed. Cir. 1996) (invention not completed if it required testing under conditions of actual use).

In this case, the circumstances of the incomplete stage of development of the second generation gun and proposed new needles at the time of this price quotation, the potential but not established distributor relationship underlying this quotation, the planned clinical collaboration, and the non-existence of a completed final product, negate the accrual of an on-sale bar from this price quotation. It seems clear that neither Radiplast nor Pharmaseal expected that this bulk price quotation would be followed by the placement of an order. To satisfy the on-sale requirement of section 102(b) there must be more than an informational exchange of price information, when there is no reasonable contemplation that the quotation will be followed by purchase and sale as a commercial transaction.

I conclude that the verdicts of invalidity based on the on-sale bar can not be supported by this bulk price quotation.

3. The Correspondence with Dr. Phelps

The third event raised by M3 Systems occurred in November 1984. Mr. Engström of Radiplast responded to a letter written in September 1984 by Dr. Phelps, a physician

in Alabama, who had seen a demonstration and brochure for the first generation device and wrote to Sweden for information. Engström wrote back that he hoped to start marketing a second generation device and new needles in the United States in early 1985, and that if Dr. Phelps did not wish to wait until United States distribution was arranged he could order directly from Sweden; the letter quoted prices for a gun and needles. No further correspondence ensued. Dr. Phelps testified that he expected that had he sent an order it would have been filled, and that he knew nothing about the difference between "generations." Mr. Engström testified that neither the new needles nor the completed second generation gun was available when he answered Dr. Phelps.

An offer of sale originating in a foreign country, directed to a consumer in the United States, can establish an on-sale bar as to what was offered. *In re Caveney*, 761 F.2d 671, 676-77, 226 USPQ 1, 4 (Fed. Cir. 1985). The demonstration and brochure that led to Dr. Phelps' inquiry were of the first generation device, which used Tru-Cut needles. Although the details of Radiplast's product changes were not explained to Dr. Phelps it was undisputed that an order, if placed, could not have been filled at that time with the second generation gun and needles. *Cf. King Instrument Corp. v. Otari Corp.*, 767 F.2d 853, 860, 226 USPQ 402, 407 (Fed. Cir. 1985) (finding it significant that purchaser could discern that it was the later-patented invention being offered for sale).

At the time of Mr. Engström's letter the second generation device and needles were in an early development stage. Although Dr. Phelps was not told the details of these developments, this correspondence did not raise an on-sale bar to a product not yet developed. As held in *Robotic Vision Sys., Inc. v. View Eng'g, Inc.*, 112 F.3d 1163, 1167-68, 42 USPQ2d 1619, 1623 (Fed. Cir. 1997), "subsequent completion of an invention after the critical date does not relate back to the date of an earlier alleged offer of sale." See also *Micro Chem.*, 103 F.3d at 1544-45, 41 USPQ2d at 1243 (no on-sale bar when invention not completed at time of offer, only prototype and sketch of proposed configuration); *Shatterproof Glass*, 758 F.2d at 622, 225 USPQ2d 639 (not an on-sale bar to solicit orders before invention completed); *cf. Pfaff v. Wells Elec., Inc.*, 124 F.3d 1429, 43 USPQ2d 1928 (Fed. Cir. 1997), *cert. granted*, 118 S. Ct. 1183 (1998) (No. 97-1130) (although invention not reduced to practice because no physical embodiment had been made, the firm purchase order and

delivery date accrued the on-sale bar) (citing *UMC Elec. Co. v. United States*, 816 F.2d 647, 2 USPQ2d 1465 (Fed. Cir. 1987)). On the totality of the circumstances, considering the relevant policies and the undisputed facts, I conclude that this letter to Dr. Phelps, written in response to an inquiry about the first generation device, which resulted from a brochure on the first generation device, stating the price for the second generation device and needles before they were fully developed and before they were available, did not trigger the on-sale bar.

Upon *de novo* review of the totality of the circumstances, with due consideration to the applicable policies, the undisputed facts, and drawing factual inferences in favor of the verdicts, I conclude that the verdicts of invalidity based on a section 102(b) bar are incorrect; I would reverse the judgment on that ground.

II

INFRINGEMENT OF THE '056 PATENT

In view of the majority's affirmance of the judgment of invalidity, we do not reach the issue of infringement of the '056 patent. That judgment is vacated.

III

VALIDITY OF THE '308 PATENT

The '308 patent is directed to the third generation gun. The jury found the asserted claims of the '308 patent not infringed, and invalid or unenforceable on the grounds of anticipation, obviousness, and insufficient

The three different views in the three opinions of this panel on the on-sale issue point up the need for a more certain law than today exists. Inventors and those who commercialize inventions should reasonably know when the on-sale bar starts to accrue, instead of awaiting litigation-borne *post hoc* judicial evaluations of the totality of the circumstances, varying with the nature of the invention, the nature of the customer contact, and the judicial weight given to the conflicting policy interests.

I favor, as simple and fair, the bright line rule that for the §102(b) on-sale bar to accrue the invention must exist in commercial form when the offer of sale is made. This rule would implement the dominant policy of providing a one-year grace period for determining the performance of the product in the marketplace.

supporting description, as well as for fraud, misuse, and violation of antitrust law, as discussed in Parts V-VII, *post*.

Claims 15 and 16 were at issue, with emphasis added to show the claim terms whose construction is relevant to the issues of patent validity or infringement:

15. A tissue sampling device comprising:

a guide sleeve having front and rear guide sleeve ends and defining a longitudinal axis extending between said front and rear guide sleeve ends, said front guide sleeve end having an opening therethrough;

a hollow first needle positioned within said guide sleeve and extendable from said opening, said hollow first needle being moveable along said axis;

a second needle extending through said hollow first needle and moveable along said axis, said second needle having a tip which is extendable from said hollow first needle and said opening, and said second needle further including a tissue sample receiving recess;

a first needle head coupled to said hollow first needle and mounted within said guide sleeve for movement along said axis to move said hollow first needle along said axis;

a second needle head coupled to said second needle and mounted within said guide sleeve for movement along said axis to move said second needle along said axis;

a first spring disposed within said guide sleeve and operatively associated with said second needle head, said first spring being capable of being placed into an energized mode to store energy, and said first spring being releasable from said energized mode to propel said second needle head along said axis towards said opening, such that said tip of said second needle is extended from said hollow first needle, whereby a tissue sample can be captured within said recess;

a second spring positioned within said guide sleeve and operatively associated with said first needle head, said second spring being capable of being placed into an energized mode to store energy, and said second spring being releasable from said energized mode to propel said first needle head along said axis towards said opening, said hollow first needle being extended from said opening such that said recess of said second needle is enclosed by said hollow first needle;

a first latch means selectively releasable from outside said guide sleeve for releas-

ably holding said first spring in said energized mode;

a second latch means for releasably holding said second spring in said energized mode, said second latch means being releasable in response to and subsequent to release of said first spring; and

sequential energizing means operative to move said first needle head along said axis towards said rear guide sleeve end to cause said second latch means to hold said second spring in said energized mode, and subsequently to move said second needle head along said axis towards said rear guide sleeve end to cause said first latch means to hold said first spring in said energized mode.

Claim 16 is the same as claim 15 except for the last clause, which includes the selective retraction of the stylet to expose the tissue sample:

16. ... energizing means operative to move said first needle head and said second needle head along said axis towards said rear guide sleeve end to cause said first latch means to hold said first spring in said energized mode and to cause said second latch means to hold said second spring in said energized mode, said energizing means being selectively operative to move said first needle head but not said second needle head towards said rear guide sleeve end, whereby said hollow first needle is selectively retractable to expose said tissue sample receiving means in said second needle.

A. Support by the Written Description

The jury found claims 15 and 16 "not supported by the description contained in the specification." M3 Systems explains that the issue was the meaning of the claim terms "sequential energizing" and "energizing means." The district court had permitted the jury to resolve this disputed issue of claim construction. On this appeal we give *de novo* review to the issues relevant to the construction and interpretation of the claims. See *Cybor*, 138 F.3d at 1454-56, 46 USPQ2d at 1172-75.

M3 Systems states that "sequential" should be construed, and was construed by the jury, to permit no overlap of needle movement during the energizing step. M3 states that since the patent shows that the second needle can start to move before the first needle has completed its movement, the written description does not support the claims. M3 states: as it did at trial, that since the specification does not describe how to obtain elimination of all overlap of needle

movement, the claims are not supported by the written description and are invalid.

[5] Bard agrees that the specification shows a slight overlap in the movement of the needles, whereby the second needle starts to move just before the first needle has completed its movement and the first spring latches. Thus, Bard contends, correct interpretation of the claims allows for this slight overlap in needle movement. Bard states that it is incorrect to construe the claims contrary to the specification, and then to hold the claims invalid because they are contrary to the specification. Bard is of course correct; the claims are construed in accordance with the rest of the specification of which they are a part, and not contrary to it. See *Slimfold Mfg.*, 810 F.2d at 1116, 1 USPQ2d at 1566; *SRI Int'l v. Matsushita Elec. Corp. of Am.*, 775 F.2d 1107, 1125, 227 USPQ 577, 585 (Fed. Cir. 1985) (in banc).

The specification illustrates the sequential energizing of the needles as having some overlap in movement of the needles. The term "sequential" in the claims is in accordance with this description in the specification: no usage or exemplification of the sequential movement requires eliminating all overlap. It is incorrect to construe the claims as barring all overlap, as urged by M3 Systems. On the correct claim construction, no reasonable jury could have found that the claims are not supported by the description in the specification. It is thus apparent that the jury either adopted M3's erroneous claim construction, or incorrectly applied the law governing claim construction to the undisputed facts of the structure described in the specification.

On the correct claim construction the written description is in accordance with and in support of the claims. The judgment of invalidity on this ground is reversed.

B. Anticipation

The jury also found claims 15 and 16 invalid based on anticipation. "Anticipation" requires that the identical invention was already known to others, that is, that the claimed invention is not new. See *Minnesota Mining & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 1572, 24 USPQ2d 1321, 1332 (Fed. Cir. 1992) ("In order to anticipate, the [reference] must sufficiently describe the claimed invention to have placed the public in possession of it.") M3 Systems argued that anticipation arose on the published PCT application describing the first generation biopsy gun, and on the device itself. It was not disputed, however, that the first generation gun lacks the inte-

grated mechanical energizing structure described and claimed in the '308 patent, and that the PCT application does not show such structure.

M3 Systems' argument was that when the claims are correctly construed they are anticipated. M3 states that on the claim construction reached by the jury in finding claims 15 and 16 unsupported by the written description, whereby the term "sequential" is defined as barring all overlap in needle movement, the structure in the specification is inconsistent with the claims and therefore must be disregarded. M3 argues, as we understand it, that since "energizing means" and "sequential energizing means" are in means-plus-function form, it is appropriate to disregard the structure in the specification that is inconsistent with the claim language, leaving the claimed functions with "no disclosed supporting structure," quoting from M3's brief. Thus, according to M3, these claim terms are directed only to function, and can be anticipated by any prior art that shows the function of energizing or sequential energizing, without limit to how that function is performed. Thus M3 argues that since the PCT application and the first generation gun are manually sequentially energized, one spring at a time, the jury correctly found anticipation by the first generation gun and the PCT application.

Indeed, the jury verdicts can be understood only if one adopts so tortured a view of the law. As we have discussed, it is incorrect to construe claims contrary to the specification, and it is incorrect to construe terms in means-plus-function form as disembodied from the structure in the specification. M3 Systems' witnesses readily admitted that the integrated mechanized gun described and claimed in the '308 patent is different from the first generation gun and the description of that gun in the PCT application. On the undisputed facts and the correct law, a reasonable jury could not have found the '308 claims anticipated thereby. The judgment of invalidity for anticipation must be reversed.

C. Obviousness

M3 Systems argues that the third generation gun of the '308 patent would have been obvious in view of the PCT application and the first generation gun, in combination with the '154 patent describing the second generation gun. M3 states that the third generation is an obvious combination of elements found in the first and second generations. See discussion, Part I.B. *ante*, of the law of obviousness. There was no dispute as to the scope and content of this prior art, or as to the

elements in the third generation gun that were not in either the first or second generations. The only dispute was the ultimate question of whether the third generation gun would have been obvious from what had gone before.

M3 Systems contends that for the third generation the inventor simply changed the integrated mechanical cocking mechanism of the second generation gun to accomplish mechanically the sequential cocking that was necessarily done when the first generation gun was manually cocked, one spring at a time. Bard replies that the one-at-a-time cocking of the springs in the first generation, by hand or by miniature crowbar, does not teach or suggest the integrated automatic sequential cocking of the third generation, and that there is no teaching or suggestion in the prior art to make such a combination, or of the structure having the improved ease of handling of the third generation gun. Bard also points to the other new structural features of the third generation whereby the needles can be retracted separately after tissue sampling.

The ultimate question is whether, from the evidence of the prior art and the knowledge generally available to one of ordinary skill in the relevant art, there was in the prior art an appropriate teaching, suggestion, or motivation to combine components in the way that was done by the inventor. See, e.g., *Uniroyal*, 837 F.2d at 1050, 5 USPQ2d at 1438; *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). The ultimate determination of obviousness is a legal conclusion. When this legal conclusion is drawn by the jury the verdict is reviewed, as discussed in Part I.B, to determine whether substantial evidence supports the legal conclusion, with due consideration to the presumption of validity and the standard of proof.

[6] Bard points out that its rotating sleeve mechanism for sequential energizing is a marked distinction from its earlier devices, even were the concept of sequential energizing deemed to be derivable from the manual operation of the first generation. M3 Systems does not cite any reference suggesting the structure employed in the third generation gun, or any suggestion of mechanical sequential energizing, or indeed the other features of the third generation. Those contributions came from the inventor, not the prior art. See *Uniroyal*, 837 F.2d at 1050, 5 USPQ2d at 1438. We have been directed to no teaching or suggestion of this combination in the descriptions of the first and second generation guns, viewed separately or to-

gether. Thus the verdicts of invalidity on the ground of obviousness are without essential factual support, and can not stand.

IV

INFRINGEMENT OF THE '308 PATENT

The jury found that M3 Systems did not infringe claims 15 and 16 of the '308 patent. Because the special verdicts discussed in Part III.A (that there is not support for these claims in the written description) require an incorrect claim construction, we have reviewed the verdicts of noninfringement on the correct construction, i.e., that claims 15 and 16 do not require a total absence of overlap in the sequential movement of the needles during energizing. Bard contends that on the correct claim construction the verdicts of noninfringement can not stand. Bard is entitled to a new trial if a jury reasonably could have reached verdicts of infringement upon correct claim construction and correct application of the law of infringement. However, if only one result is supportable in law and on undisputed facts, judgment as a matter of law is appropriate. See *Strattec*, 126 F.3d at 1419, 44 USPQ2d at 1036.

On appeal Bard argues only the issue of sequential energizing, asserting literal infringement under section 112 paragraph 6. M3 Systems does not dispute, and indeed emphasizes, that in its ProMag devices there is sequential energizing with a slight overlap in needle movement. However, M3's performance of the function of sequential energizing was not the only disputed issue with respect to infringement. M3 also points out that its device is a box-type biopsy gun and does not contain a "guide sleeve" as required by the claims, and that the M3 ProMag guns use linear tensioning whereas the '308 device performs counter-rotational tensioning, such that the structure used by M3 is not equivalent to that shown in the '308 specification, applying section 112 paragraph 6 to the energizing means of the '308 claims.

M3 Systems states that the '308 patent draws a distinction between box-type biopsy guns such as those made by M3 wherein the housing is merely a container for the device, and guns embodying a mechanism wherein the guide sleeve and a tensioning sleeve interact and serve as part of the cocking mechanism. M3 argued at trial that its housing is independent, whereas in the '308 specification the gun is housed in a two-part structure

wherein the inner part is the guide sleeve and the outer part is the tensioning sleeve and rotates about the inner part. These sleeves bear cam surfaces and slots that interact with the flanges on the needle heads and thus serve as part of the cocking mechanism. M3 states that its gun has neither a guide sleeve nor a tensioning sleeve, and that its housing is merely the container for the device, and is unconnected with the cocking mechanism.

Although the claims in suit do not require a tensioning sleeve, see *D.M.I., Inc. v. Deere & Co.*, 755 F.2d 1570, 1574, 225 USPQ 236, 239 (Fed. Cir. 1985) (improper to import limitation from one claim into another claim lacking the limitation), the guide sleeve is described in the specification as "the inner sleeve or guide sleeve." The specification shows and the claims require that the guide sleeve perform a guiding function for the cocking mechanism. Bard does not assert that such a structure is found in the M3 guns. Nor does Bard raise on this appeal any issue of equivalency under the doctrine of equivalents.

At trial the parties presented evidence on how the patented and accused devices worked, and the court instructed the jury as to the applicable law of infringement of means-plus-function claims. For the energizing means Bard was required to establish, by a preponderance of evidence, that M3 Systems' device embodies the structure described in the '308 specification or an equivalent thereof. 35 U.S.C. § 112, ¶6; *Valmont Indus., Inc. v. Reinke Mfg. Co.*, 983 F.2d 1039, 1041-42, 25 USPQ2d 1451, 1453-54 (Fed. Cir. 1993); *Texas Instruments Inc. v. United States Int'l Trade Comm'n*, 805 F.2d 1558, 1562-63, 231 USPQ 833, 834-35 (Fed. Cir. 1986). Since the structure of the M3 energizing means is not the same as that described in the '308 specification, the issue was whether the structures are equivalent. See *D.M.I.*, 755 F.2d at 1575; 225 USPQ at 239 ("[T]he sole question is whether the single means in the accused device which performs the function stated in the claim is the same as or an equivalent of the corresponding structure described in the patent's specification as performing that function.") The determination of infringement under section 112 paragraph 6 is a factual question. *In re Hayes Microcomputer Prods. Inc. Patent Litig.*, 982 F.2d 1527, 1541, 25 USPQ2d 1241, 1251 (Fed. Cir. 1992); *Intel Corp. v. United States Int'l Trade Comm'n*, 946 F.2d 821, 841, 20 USPQ2d 1161, 1178 (Fed. Cir. 1991); *D.M.I., supra*.

There was no dispute that the function of sequential energizing is performed in the M3 Systems' guns; the only question was whether

er the M3 guns employ the same or an equivalent of the structure described in the '308 specification. The accused equivalent structure need not have been known at the time the patented invention was made. See *Texas Instruments*, 805 F.2d at 1563-64, 231 USPQ at 834-35 ("It is not required that those skilled in the art knew, at the time the patent application was filed, of the asserted equivalent means of performing the claimed functions. . . .")

It was explained at trial that to achieve sequential energizing in the '308 device the outer tensioning sleeve is rotated about the inner guide sleeve; cam surfaces on the interior of the tensioning sleeve push against wings built directly into the needle heads to compress the two springs in sequence, pressing them rearward into the locked position. In contrast, in the M3 Systems device a handle connected through the rear of the housing acts on sleds bearing the needles; M3's device relies on the lever-action of the handle, as opposed to a rotating sleeve, to pull, rather than push, the needle sleds sequentially back toward their respective latches. Bard had argued at trial, in connection with the issue of validity, that the claims "must be interpreted as means-plus-function terms in accordance with *Valmont*," and cited its "external integrated energizing mechanism that converts rotary motion to linear motion" to distinguish the '308 gun from its own earlier device. Claims must be interpreted the same way for determining infringement as was done to sustain their validity.

[7] A reasonable jury could have found that the structure using rotational tensioning as the energizing means is substantially different from the energizing structure in the M3 Systems guns. Although Bard argues that it suffices for infringement if the energizing is achieved with the slight overlap shown in the '308 patent, that is, if the function of sequential energizing is performed, claims written in the form authorized by section 112 paragraph 6 are limited by the structure described and equivalents of that structure. Performance of the same function does not of itself establish infringement.

Bard directs us to the doctrine of claim differentiation, and argues that it is incorrect to interpret the "sequential energizing means" of claim 15 as limited to the structure in the specification, because other claims, not at issue, specifically state that structure. Bard argues that its claims in suit are broader in that they state only the function of sequential energizing, and that they therefore warrant broader scope than the

there is no substance to any of these assertions; that all material information was presented to the examiner; that there was no intent to deceive the examiner; that the examiner was not deceived; and that the evidence points to good faith in the prosecution of these patents. Good faith is an absolute defense to the charge of common law fraud. See *Walker Process*, 382 U.S. at 177, 147 USPQ at 407.

[8] M3 Systems argues that any omission in the submissions to the PTO is "necessarily in the material, because the allowance of the application is the intended natural consequence of that submission." That is not a correct statement of the law. There is no presumption that information not filed by an applicant was material simply because patentability ensued. To establish culpability any omission must be of a fact material to patentability and it must be a deliberate misrepresentation, whether by omission or misstatement, that was intended to and did mislead the examiner into taking favorable action that would not otherwise have been taken. Intent to mislead or to deceive must be proved by clear and convincing evidence. See *Walker Process*, *supra*. Deceptive intent is not inferred simply because information was in existence that was not presented to the examiner; and indeed, it is notable that in the usual course of patent prosecution many choices are made, recognizing the complexity of inventions, the virtually unlimited sources of information, and the burdens of patent examination. See *Northern Telecom*, 908 F.2d at 939, 15 USPQ2d at 1327 (discussing the ease with which routine patent prosecution may be portrayed as tainted conduct).

Following are the actions that M3 Systems presented as probative of fraud in the prosecution of the '056 or the '308 patent:

1. The Inventorship Issue

This issue was discussed *ante* in connection with the validity of the '056 patent. There was no evidence of intent to deceive in correcting the inventorship to include Mr. Akerfeldt with Dr. Lindgren as joint inventors. The question of Mr. Taylor's role as a possible inventor did not present substantial evidence of fraud. Indeed, since the inventorship issue was not grounds of invalidity, it can not satisfy the "but for" test of fraud.

2. Provision of Actual Models to the Examiner

M3 Systems argued that Bard should have provided the reissue examiner with actual models of the first generation gun and the

or deliberate omission of a fact material to patentability, (2) made with the intent to deceive the patent examiner, (3) on which the examiner justifiably relied in granting the patent, and (4) but for which misrepresentation or deliberate omission the patent would not have been granted. A finding of fraud can of itself render the patent unenforceable, and when accompanied by the elements of violation of the Sherman Act, as discussed in Part VI, can incur additional consequences.

To establish fraud for purposes of antitrust violation the defendant "must make a greater showing of scienter and materiality than when seeking unenforceability based on conduct before the Patent Office. 6 Donald S. Chisum, *Chisum on Patents* §19.03[6][e] (rel. 47 1993) (citations omitted). In *Walker Process Equip., Inc. v. Food Mach. & Chem. Corp.*, 382 U.S. 172, 177, 147 USPQ 404, 407 (1965) the Court clarified that "knowing and willful" fraud must be shown, and is predicate to potential antitrust violation. As explained in *Handgards, Inc. v. Ethicon, Inc.*, 601 F.2d 986, 996, 202 USPQ 342, 351 (9th Cir. 1979), "[t]he road to the Patent Office is so tortuous and patent litigation is usually so complex, that 'knowing and willful fraud' as the term is used in *Walker* can mean no less than clear, convincing proof of intentional fraud involving affirmative dishonesty, a deliberately planned and carefully executed scheme to defraud . . . the Patent Office. . . . Patent fraud cases prior to *Walker* required a rigorous standard of deceit. . . . *Walker* requires no less." (Emphasis and elisions in original.) The requirements of common law fraud are in contrast with the broader sweep of "inequitable conduct," an equitable defense that may be satisfied when material information is withheld with the intent to deceive the examiner, whether or not the examiner is shown to have relied thereon. See *Kingsdown Med. Consultants v. Hollister, Inc.*, 863 F.2d 867, 872, 9 USPQ2d 1384, 1389 (Fed. Cir. 1988).

M3 Systems stated that Bard made myriad material misrepresentations in prosecuting the '056 and the '308 patents, including the following: the incorrect inventors were named; actual samples of the Tru-Cut needles and the first generation device were not provided to the examiner; the Baxter patent on the Tru-Cut needle and two Lindgren articles on the first generation device were not provided to the examiner; the material submitted to the FDA was not provided to the examiner; the examiner was not told of the co-pending design patents; and the examiner was not provided with all of the evidence on the on-sale issue. Bard responded that

claims that state a specific energizing structure. However, as we have discussed, claims that are written in the form authorized by section 112 paragraph 6 are by statute limited to the structure described in the specification and equivalents of that structure. As discussed in *Lairam Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1538, 19 USPQ2d 1367, 1371 (Fed. Cir. 1991) a "means-plus-function limitation is not made open-ended by the presence of another claim specifically claiming the disclosed structure which underlies the means clause or an equivalent of that structure."

Applying this law, and based on the absence of a guide sleeve or any counterpart structure, and the differences in the structures of the energizing mechanisms, we conclude that on the correct claim interpretation a reasonable jury could find that claims 15 and 16 are not infringed. The judgment of noninfringement of the '308 patent is affirmed.

V

FRAUD

M3 Systems charged that Bard had committed both fraud and inequitable conduct in prosecuting the '056 and '308 patents. The jury was not asked to decide the issue of inequitable conduct, which was reserved to the judge and withdrawn by M3 after the favorable verdicts on the question of fraud. The jury found that it had been established by clear and convincing evidence that each of the '056 and the '308 patents had been procured by fraud in the Patent and Trademark Office.

Fraud in the procurement of a patent requires proof of the elements of fraud as developed in the common law: (1) that a false representation of a material fact was made, (2) with the intent to deceive, (3) which induced the deceived party to act in justifiable reliance on the misrepresentation, and (4) which caused injury that would not otherwise have occurred. See *Nobelpharma AB v. Implant Innovations, Inc.*, 141 F.3d 1059, 1069-70, 46 USPQ2d 1097, 1105-06 (Fed. Cir. 1998); *Norton v. Curtiss*, 433 F.2d 779, 792-94 & n.12, 167 USPQ 532, 543-45 & n.12 (CCPA 1970) (citing *W. Prosser, Law of Torts* §§100-05: (3d ed. 1964)).

The tort of fraud requires that there was a successful deception, and action taken by the person deceived that would not have otherwise been taken. Applied to patent prosecution, fraud requires (1) a false representation

Tru-Cut needles, in addition to the PCT application and publications describing the needles. The PCT application described the first generation gun, and descriptions of the Tru-Cut needles were before the examiner. Reviewing the prosecution history we do not discern substantial evidence of material withholding, for cumulative information is not material to patentability, and there was no evidence of deceptive intent or that the examiner was deceived into granting the reissue. This issue can not support the verdict of fraud.

3. Provision of On-Sale Information to the Examiner

Bard filed with the PTO descriptions of the transactions involving Radiplast and Pharmaseal before the critical date, accompanied by documents including the invoice for the 10 guns and 250 needles for the clinical trials, the bulk price quotation discussed *ante* in connection with the on-sale issue, and declarations concerning the hospital tests and the proposed distribution relationship between Radiplast and Pharmaseal. M3 Systems states that Bard should have also disclosed to the PTO Radiplast's sales activities for the first generation device, Radiplast's letters to doctors concerning the clinical trials, the fact that the bulk price quotation included a profit, and Radiplast's letter to Dr. Phelps.

Concerning Dr. Phelps, Bard answers that it submitted to the PTO all the relevant material it had obtained. The letter to Dr. Phelps was obtained after suit was filed, during discovery of Radiplast's files in Sweden. There was no evidence that Bard had obtained and withheld this information during the reissue prosecution. With respect to the bulk price quotation, M3 Systems states that Bard should have flagged this document and described its significance to the examiner, lest it be overlooked in the volume of paper. Bard responds that the documents provided to the examiner were a record of Radiplast's efforts to find a distributor and its transactions with Pharmaseal, and that the total number of documents was not so voluminous, or the contents so difficult to understand, as to support an inference of intentional concealment of any particular document that was filed. We agree that these documents, all in the prosecution history, are easily read.*

* The record provided us does not show any response from the PTO. Although Bard states that "the [PTO] determined that the transfers to American Pharmaseal [] were for primarily experimental purposes and therefore did not trigger

On reviewing these filings in the PTO we have been directed to no evidence of material withholding or the provision of false information, or of intent to deceive or actual deception. The additional subject matter that M3 states should have been included was not shown to be material or other than cumulative. These actions did not constitute substantial evidence of fraud.

4. Disclosure of the Information Filed with the FDA

None of the material provided us with respect to Radplast's 510(k) pre-market notification filed with the Food & Drug Administration supports a finding of fraud in the patent prosecution. M3 Systems concentrates on the presence in this package of needle drawings made by Hart Enterprises, the designated manufacturer. As we have explained, the inventorship issues that have been raised do not provide substantial evidence of fraudulent procurement of these patents.

5. Disclosure of the PCT Application

The PCT application had been submitted to the PTO during prosecution of the '154 patent and again during the '056 reissue proceedings. M3 Systems states that Bard withheld the PCT application from the examiner of the '308 patent and then mischaracterized it.

M3 Systems stated at trial and repeats on this appeal that Bard submitted the PCT application to the examiner of the '308 patent only after allowance of the '308 claims in suit, and then falsely represented that it was relevant solely to newly added claims 21-23 (as then numbered). Bard complains that M3 misstated at trial, and continues to misstate, these facts. We must agree. The '308 prosecution history in the record shows that Bard cited the PCT application and filed a copy thereof with a Supplemental Information Disclosure Statement accompanying Bard's first response, filed October 13, 1989, to the first Office Action. Contrary to M3's statements, the prosecution record shows that no claims had been allowed or held allowable when the PCT application was submitted to the PTO.

In submitting the PCT Application Bard's patent attorney pointed out the aspect of that

application that M3 Systems has stated is of greatest significance, viz., the separate and thus sequential hand cocking of the springs in the first generation device. In the Remarks section of the response Bard discussed claims 21-23, the claims specific to sequential energizing. We discern no support for M3's argument that Bard misrepresented the content of the PCT application, or that the examiner did not consider the PCT application adequately. The examiner initiated on December 15, 1989 that he had considered this reference, the same day a telephone interview was held that led to an examiner's amendment, followed by allowance on January 3, 1990. The charge of fraud based on these events is totally without substance.

Conclusion

These asserted flaws in patent prosecution, separately or taken together, do not constitute substantial evidence of fraud. The verdicts of fraud in procuring the '056 and '308 patents can not stand, and the judgment on these verdicts is reversed.

VI

ANTITRUST ISSUES

Antitrust violation was found on special verdicts that Bard by anticompetitive conduct had monopolized or attempted to monopolize the relevant markets for each of fully automated biopsy guns and needles, guns alone, and replacement needles. The jury instructions on the antitrust count identified three separate claims: first, that the patents were procured by fraud followed by attempts to enforce the fraudulently procured patents; second, that Bard threatened and then brought suit knowing that its patents were invalid, unenforceable, or not infringed; and third, that Bard unlawfully leveraged its monopoly power in the guns to obtain a competitive advantage in replacement needles by modifying its gun to accept only Bard needles. The jury found in favor of M3 Systems and against Bard on every question, and assessed compensatory damages, measured primarily as litigation costs, of \$1.5 million, which were trebled as required by section 4 of the Clayton Act. Bard argues that the findings are not supported by substantial evidence, and that judgment as a matter of law should have been granted.

A. The Walker Process Claim

Fraud in obtaining a United States patent is a classical ground of invalidity or unenforceability.

ability of the patent. In *Walker Process*, 382 U.S. 172, 147 USPQ 404 the Court established that antitrust liability under section 2 of the Sherman Act may arise when a patent has been procured by knowing and willful fraud, the patentee has market power in the relevant market, and has used its fraudulently obtained patent to restrain competition. Restraint on competition based on power in the relevant market must be established on the criteria of section 2, when the patent has been fraudulently obtained. See *Nobelpharma*, 141 F.3d at 1068; 46 USPQ2d at 1104; *Spectrum Sports, Inc. v. McQuillan*, 506 U.S. 447, 455-56 (1993) (explaining *Walker Process* as requiring appraisal of the exclusionary power of the fraudulently obtained patent in terms of the relevant market for the product involved).

The jury found by special verdicts that the '056 and '308 patents were obtained by fraud in their prosecution before the PTO, as discussed in Part V. ante. The jury also found that "there is a relevant product market" for the biopsy guns and needles, together and separately that Bard had monopoly power in each market and had "engaged in restrictive or exclusionary conduct with the conscious object of acquiring monopoly power in that market."

[9] It is not presumed that the patent-based right to exclude necessarily establishes market power in antitrust terms. See *Abbott Labs. v. Brennan*, 952 F.2d 1346, 1354, 21 USPQ2d 1192, 1199 (Fed. Cir. 1991) (possession of patent, and market advantages thus gained, do not establish antitrust market power). The virtually unlimited variety and scope of patented inventions and market situations militate against per se rules in these complex areas. Unless the patent had been obtained by fraud such that the market position had been gained illegally, the patent right to exclude does not constitute monopoly power prohibited by the Sherman Act. *Walker Process*, 382 U.S. at 177-78, 147 USPQ at 407. As the Second Circuit stated in *SCM Corp. v. Xerox Corp.*, "No court has ever held that the antitrust laws require a patent holder to forfeit the exclusionary power inherent in his patent the

¹ In *Nobelpharma* the Federal Circuit held in banc that Federal Circuit law would therefore apply to determination of whether fraudulent conduct determined in obtaining a patent, whereas determination of the other elements of the section 2 violation, viz. market power in the relevant market and illegal restraints on competition, since not unique to the patent right would continue to be governed by regional circuit law. 141 F.3d at 1067-68, 46 USPQ2d at 1104.

instant his patent monopoly affords him monopoly power over a relevant product market." 645 F.2d 1195, 1204, 209 USPQ 889, 899 (2d Cir. 1981).

[10] Thus it was necessary for M3 Systems to establish market power as well as fraudulent procurement of the patent and that Bard's related commercial activity was coupled with violations of section 2. In addition, applying the law of the Seventh Circuit to the elements of section 2, M3 was required to establish that Bard had a specific intent to monopolize, engaged in anti-competitive conduct, and had a dangerous probability of success. See *Great Escape, Inc. v. Union City Body Co.*, 791 F.2d 532, 540 (7th Cir. 1986). These issues were argued at trial, and by special verdicts the jury found culpability on the part of Bard. However, in view of the incorrect verdicts on the question of fraud in procurement of the '056 and '308 patents, as discussed in Part V, as a matter of law the judgment of antitrust violation can not be sustained on *Walker Process* grounds.

B. "Sham" Litigation

Conduct prohibited under antitrust law includes bringing suit to enforce a patent with knowledge that the patent is invalid or not infringed, and the litigation is conducted for anti-competitive purposes. In such events the antitrust immunity of *Noerr-Pennington* and *California Motor Transp. Co. v. Trucking Unltd.*, 404 U.S. 508 (1972) does not apply to those who seek redress through judicial process.

The Supreme Court in *Professional Real Estate Investors, Inc. v. Columbia Pictures Indus., Inc.* (PRE) established the two-part criteria of "sham" litigation: (1) the lawsuit must be objectively meritless such that "no reasonable litigant could expect success on the merits" and (2) it must be found that "the baseless lawsuit conceals an attempt to interfere directly with the business relationship of a competitor." 508 U.S. 49, 60, 26 USPQ2d 1641, 1646 (1993) (emphasis in original) (quoting *Eastern R.R. Presidents Conf. v. Noerr Motor Freight, Inc.*, 365 U.S. 127, 144 (1961)). The Court declined to decide "whether and, if so, to what extent *Noerr* permits the imposition of antitrust liability for a litigant's fraud or other misrepresentations." PRE, 508 U.S. at 62 & n.6, 26 USPQ2d at 1646-47 & n.6. Fraud in the procurement of a patent is governed by *Walker Process* and, as in PRE, the complainant "must still prove a substantive antitrust violation." PRE, 501 U.S. at 61, 26 USPQ2d at 1646.

Thus although sham litigation as a tactic to destroy competition can lead to antitrust violation, see *U.S. Philips Corp. v. Sears Roebuck & Co.*, 55 F.3d 592, 597, 34 USPQ2d 1699, 1703 (Fed. Cir. 1995); cf. *Handgards, Inc. v. Ethicon, Inc.*, 743 F.2d 1282, 1288, 223 USPQ 214, 222-23 (9th Cir. 1984) (addressing *Noerr-Pennington* issue and explaining that to invoke "sham" exception the claimant must show "some abuse of process," and requiring clear and convincing evidence of bad faith), sham litigation requires more than a failed legal theory. *PRE*, 508 U.S. at 60-61 & n.5, 26 USPQ2d at 1646 & n.5; see *Carroll Touch, Inc. v. Electro-Mechanical Sys., Inc.*, 15 F.3d 1573, 1582, 27 USPQ2d 1836, 1844 (Fed. Cir. 1993).

[11] Neither the bringing of an unsuccessful suit to enforce patent rights, nor the effort to enforce a patent that fails to invalidate, subjects the suitor to antitrust liability. Cf. *Concrete Unid. Inc. v. Cementcraft, Inc.*, 776 F.2d 1537, 1539, 227 USPQ 784, 785 (Fed. Cir. 1985) (no liability for unfair competition based on suit to enforce an invalid patent). Since a principal purpose of the patent system is to provide inventors with a property right upon which investment and other commercial commitments can be made, absent the *PRE* criteria the patentee must have the right of enforcement of a duly granted patent, unencumbered by punitive consequences should the patent's validity or infringement not survive litigation. See *id.* The law recognizes a presumption that the assertion of a duly granted patent is made in good faith, see *Virvut v. Creamery Package Mfg. Co.*, 227 U.S. 8, 37-38 (1913); this presumption is overcome only by affirmative evidence of bad faith. See *PRE*, *supra*.

M3 Systems states that Bard knew its patents were not infringed when it brought suit, citing the testimony of a Bard engineer that he did not think the original M3 needle infringed the '056 patent and that other Bard employees had told him that M3 changed its needle design to one that did not infringe. The engineer also testified that he did not know whether those who told him M3's needles did not infringe had ever read the '056 patent, or whether they were familiar with the concept of infringement under the doctrine of equivalents. This was the totality of the evidence of sham litigation concerning the '056 patent; there was no evidence at all with respect to the '308 patent.⁴ This does

⁴ M3 in its brief states that: "The jury specifically found that BARD had 'actual knowledge' that M3 did not infringe its patents or that the patents were invalid. [A10096, 11-3 ¶¶ 6,11]."

not constitute substantial evidence that this litigation was objectively meritless and brought in bad faith. The judgment of antitrust violation can not be upheld on sham litigation grounds.

C. Attempt to Monopolize

M3 Systems proposed that Bard had modified its biopsy gun and needles for the purpose of preventing use of Tru-Cut needles and then to exclude M3's copies so that they did not fit the gun without an adapter. M3 contends that Bard's motives were anticompetitive, pointing to Bard documents showing internal discussions of competitive products and concern for patent scope and market share. Bard replies that the Tru-Cut was not suitable for its new gun because it could not achieve reverse motion, and points out that M3's witness acknowledged that M3 could effectively compete, as were several other producers of biopsy guns and needles. Bard was under no duty to facilitate M3's competition by refraining from changing its products. The jury instructions did not distinguish patent-supported products and markets based thereon from actions described to the jury as being in restraint of trade. For example, the jury instruction on intent to monopolize was as follows:

M3 Systems also alleges that it was injured by Bard's unlawful attempt to monopolize. An attempt to monopolize may be proven even if Bard lacks monopoly power, but because of its alleged exclusionary conduct, there exists a dangerous probability that Bard will obtain monopoly power in any market. In order to win on its claims of attempted monopolization, M3 Systems must prove each of the following elements by a preponderance of the evidence:

First, that Bard had a specific intent to achieve monopoly power in a relevant market; second, that Bard engaged in exclusionary or restrictive conduct in furtherance of its specific intent; third, that there

There is no specific finding in the verdict form of "actual knowledge." The cites to ¶¶ 6 & 11 are to the jury's finding of patent misuse, and the jury instructions at A10096 concern the duty of candor to the PTO. The source of the quoted "actual knowledge" is not given. Such misdirections are not helpful to the appellate tribunal; see also note 6, *supra*.

The court has affirmed the district court's judgment of antitrust violation on this ground; see the separate opinion of Judge Bryson, joined by Chief Judge Mayer. This section contains the dissenting opinion of Judge Newman.

was a dangerous probability that Bard would obtain monopoly power in the relevant market; and, fourth, that M3 Systems was injured in its business or property by Bard's conduct.

In explaining further, the district court referred to "exclusionary or restrictive conduct" and "unreasonable acts and practices," again without reference to patented products and their status in the law. Although the court instructed that "conduct that involves the introduction of superior products" is not exclusionary or restrictive, the court also stated that "where conduct is ambiguous, direct evidence of a specific intent to monopolize may lead you to conclude that the conduct was intended to be and was in fact exclusionary or restrictive." No mention was made of the patentee's statutory right to exclude, and there was no instruction to consider that right.

These broadly stated descriptions of exclusionary or restrictive conduct, unlimited by the conditions set in *Walker Process* or *PRE* and taking no cognizance of the legal rights of the patent grant, do not rise to the level of violation of antitrust law. Thus I must, respectfully, dissent from the court's ruling that Bard incurred liability under the Sherman and Clayton Acts by its actions in modifying and improving its patented products, thereby requiring M3 to provide an adapter with its replacement needles for the Bard gun.

The panel majority on this issue holds that the jury verdict of monopoly power must be sustained, although the power held by Bard in this market is based on the patent right. Bard or its predecessor Radiaplast changed from the Tru-Cut to a newly designed needle that was capable of reverse movement, thus facilitating removal, inspection, and reinsertion of the inner needle while the cannula remained in place. This needle assembly is the subject of the '056 patent. The record states that M3 was obliged to use an adapter to fit its existing needles to Bard's gun; that is the antitrust ill of which M3 complained. This does not, as a matter of law, present a jury question of violation of the Sherman Act. See *California Computer Prods., Inc. v. International Bus. Mach. Corp.*, 613 F.2d 727, 744 (9th Cir. 1979) (when the innovation is an improvement, that it affects competition is not an antitrust violation, and no jury question arises).

Both the needle assembly alone and the integrated biopsy gun/needle device were patented. They were subject to Bard's patent-based rights to exclude others from making, using, or selling them. It was not

Bard's changes to its biopsy gun or needles that affected M3's sale of replacement needles; it was the patents on these products. To hold that Bard could violate the Sherman Act by changing these products, if M3's business was adversely affected, is a novel and pernicious theory of antitrust law that is contrary to the principles of competition, and fraught with litigation-generating mischief.

Despite this court's recent affirmation in *Virginia Panel Corp. v. MAC Panel Co.*, 133 F.3d 860, 873-74, 45 USPQ2d 1225, 1236 (Fed. Cir. 1997) that "a patentee may lawfully police a market that is effectively defined by its patent," this court now holds that changing and improving one's proprietary product that has created its own market niche, if to a competitor's potential disadvantage, is actionable under the Sherman Act. The competition-favoring rule is that an innovator has no duty to help its competitors: "It is the possibility of success in the marketplace, attributable to superior performance, that provides the incentives on which the proper functioning of our competitive economy rests." *Berkey Photo, Inc. v. Eastman Kodak Co.*, 603 F.2d 263, 281 (2d Cir. 1979). In *California Computer* the court observed that "[IBM] was under no duty to help CalComp or other peripheral equipment manufacturers survive or expand." 613 F.2d at 744. This court has today created a new, vague, and unworkable cause of action, of clear public detriment, with no balancing public benefit.

The concept that antitrust law should bar an innovator from making changes or improvements to its products, when others may be affected thereby, is not brand new. However, cases where this issue has been litigated have been of a different order of competitive impact than here asserted; and I have found no case in which such a charge has been sustained. In *In re IBM Peripheral EDP Devices Antitrust Litig.*, 481 F. Supp. 965, 1002-05 (N.D. Cal. 1979), *aff'd sub nom. Transamerica Computer Co. v. International Bus. Mach. Corp.*, 698 F.2d 1377 (9th Cir. 1983), cited by the panel majority, the district court declined to assess liability for IBM's interface changes that prevented use of competitors' peripheral devices when "the contested changes were improvements in the products, were not unreasonably restrictive of competition, and hence did not violate the Sherman Act." *Id.* at 1382.

A basic premise of patent law, and antitrust law in general, is that the commercial advantage gained by new technology, and its statutory protection by patent, do not convert the possessor thereof into a prohibited monopolist. In *United States v. Grinnell*

warrant creation of a new class of prohibited commercial conduct when patents are involved.

The verdicts of patent misuse are not supported by evidence or correct legal theory. The judgment on these verdicts is reversed.

Other Arguments/Issues

We have not discussed every minor argument and issue raised in this appeal. All have been considered, and we have discussed those of relevance. With respect to Bard's frequent references to jury prejudice resulting from disclosure to the jury of Bard's recent civil penalties and criminal convictions for several violations of Food and Drug Administration laws and regulations, we take note that no motion for a new trial was made on this ground, and the issue is not before us for review.

Costs

No costs.

AFFIRMED IN PART, REVERSED IN PART, VACATED IN PART, AND REMANDED.

Mayer, C.J., concurring-in-part and dissenting-in-part.

I join the court's opinion as it pertains to the validity and infringement of the '308 patent, and agree that the jury's verdict on fraud cannot stand. I join Judge Bryson's opinion sustaining the jury verdict on M3's antitrust counterclaim and remanding. My views on the validity of the '056 patent follow.

By special interrogatory, a jury found each of the disputed claims of the '056 patent invalid because the claimed invention was on sale in the United States more than one year before July 30, 1986, the filing date of the '056 patent's parent application. M3 Systems presented the jury with two reasons why the invention may be invalid for violation of the on sale bar: a transfer from Radiplast to Pharmaseal of 250 needles in June 1985 and an offer from Radiplast to Dr. Ronald Phelps in November 1984. We may affirm the invalidity verdict on either basis. See, e.g., *Ethicon Endo-Surgery, Inc. v. United States Surgical Corp.*, 93 F.3d 1572, 1582, 40 USPQ2d 1019, 1027 (Fed. Cir. 1996). Because I believe that the jury had substantial evidence that Radiplast placed on the invention claimed in the '056 patent on sale in November 1984, I would sustain the jury's verdict of invalidity.

Discussion

An inventor who places his invention "in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States" loses his right to patent the invention. 35 U.S.C. § 102(b) (1994). A determination that a product was placed on sale under section 102(b) is a question of law, based on underlying facts. See, e.g., *KeyStone Retaining Wall Sys. Inc. v. Westrock, Inc.*, 997 F.2d 1444, 1451, 27 USPQ2d 1297, 1303 (Fed. Cir. 1993). While we review the trial court's ultimate determination of a section 102(b) *bar de novo*, see, e.g., *Ferag AG v. Quipp, Inc.*, 45 F.3d 1562, 1566, 33 USPQ2d 1512, 1515 (Fed. Cir. 1995); *U.S. Environmental Products Inc. v. Westall*, 911 F.2d 713, 715, 15 USPQ2d 1898, 1900 (Fed. Cir. 1990), in considering its denial of Bard's motion for judgment as a matter of law, we review the jury's verdict, as did the trial court, for substantial evidence. See, e.g., *Shatterproof Glass Corp. v. Libbey-Owens Ford Co.*, 758 F.2d 613, 619, 225 USPQ 634, 636 (Fed. Cir. 1985); *Railroad Dynamics, Inc. v. A. Stucki Co.*, 727 F.2d 1506, 1513, 220 USPQ 929, 936 (Fed. Cir. 1984). "Substantial evidence is such relevant evidence from the record taken as a whole as might be accepted by a reasonable mind as adequate to support the finding under review." *Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 893, 221 USPQ 669, 673 (Fed. Cir. 1984).

We are guided in our review of the legal conclusion by principles underlying the on sale bar: broad and prompt disclosure of inventions to the public; providing opportunity to experiment, improve, and determine the market value of inventions; discouraging inventors from withdrawing inventions that the public has already come to believe are freely available; and discouraging commercialization that expands the patent system's grant of the right to exclude others. See, e.g., *Envirotech Corp. v. Westech Eng'g, Inc.*, 904 F.2d 1571, 1574, 15 USPQ2d 1230, 1232 (Fed. Cir. 1990); *King Instrument Corp. v. Otari Corp.*, 767 F.2d 853, 860, 226 USPQ 402, 407 (Fed. Cir. 1985); *General Electric Co. v. United States*, 654 F.2d 55, 61, 211 USPQ 867, 873 (Cl. Ct. 1981). Because the ultimate determination of whether an on sale bar exists rests on the totality of the circumstances, that is, on consideration of the unique facts of each transaction or event, no one factor necessarily controls. See, e.g., *Ferag*, 45 F.3d at 1566, 33 USPQ2d at 1515. Nevertheless, we have held that "[f]oremost among these is the policy of preventing in-

vectors from exploiting the commercial value of their inventions while deferring the beginning of the statutory term. To this end, the inventor is strictly held to the requirement that he file his patent application within one year of any attempt to commercialize the invention." *Ferag*, 45 F.3d at 1566, 33 USPQ2d at 1515 (internal citation omitted). The inventor is entitled to the full benefit of the patent regime; the public is entitled to full, timely disclosure of the protected invention.

We are likewise guided in our review by the principle that we must presume facts necessary to support the jury verdict. See, e.g., *Perkin-Elmer*, 732 F.2d at 893, 221 USPQ at 673; *Railroad Dynamics*, 727 F.2d at 1516, 220 USPQ at 939. Given the on sale bar verdict, we assume the jury found that Radiplast made a definite offer to sell certain subject matter and that this subject matter "fully anticipated the claimed invention or would have rendered the claimed invention obvious by its addition to the prior art." *UMC Elec. Co. v. United States*, 816 F.2d 647, 656, 2 USPQ2d 1465, 1472 (Fed. Cir. 1987); see also *LaBounty Mfg. Inc. v. United States Int'l Trade Comm'n*, 958 F.2d 1066, 1071, 22 USPQ2d 1025, 1028 (Fed. Cir. 1992). Thus, on review we must affirm the verdict of invalidity of the '056 patent if these factual findings are supported by substantial evidence, and within the context of the various policies underlying the on sale bar, the totality of circumstances supports the ultimate legal conclusion.

I. Offer for Sale

On September 25, 1984, Ronald Phelps, an Alabama medical doctor, sent Radiplast AB a letter that stated: "I am interested in learning more about the new device for percutaneous needle biopsy pictured on the enclosed brochure. I would appreciate it if you would send me all the information you have pertaining to the instrument. Also, please include a price list. Thank you." Phelps included with this letter a brochure entitled "Radi-biopsy device, a new device for percutaneous needle biopsy." This brochure described previously existing technology and then stated:

A new device has been constructed in order to improve this biopsy method. With the aid of this instrument the biopsy procedure can be carried out with one hand, and as the movements of the obturator and cannula are automatized, better tissue specimens are obtained. All biopsies can be performed by one examiner under dy-

namic ultrasonic control, or under fluoroscopy. The new device consists of a spring-trigger system for firing the two different parts of the needle — the cannula and the obturator.

It is constructed of alloyed brass and, like the pressure rod, can be autoclaved. See special instructions before using. Manufactured by . . . RADIPLAST AB.

By way of its managing director, Thomas Engström, Radiplast, replied as follows to Phelps' letter on November 12, 1984:

We thank you for your letter of [S]ept. 25[,] 1984 and for your interest in our BIOPSY DEVICE. I am truly sorry for my late reply.

Our generation No. 2 of the device will we, together with our new biopsy needles suitable for the device, start marketing in USA beginning of '85, at the moment we do not know through which company. If you do not want to wait until we have our representation in USA arranged, you can always [sic] order the device directly from us.

Our price for the device is SEK 9,900. — and for the needles SEK 75. — /ea.

The device is reusable and can be autoclaved. Very little service has to be done on the device due to reliable design. The needles are disposable and are designed to suit the device.

I am enclosing leaflet and article.

I am looking forward to hearing from you.

(Emphasis added).

The Radiplast brochure that Phelps sent to Radiplast describes a device that can be operated with one hand, by one operator, leaving the physician's other hand free to operate the ultrasound or fluoroscopy equipment. The brochure describes both parts of the needle as automatized by way of a spring-trigger system. It describes the construction materials used to manufacture the device as well as a procedure by which it can be cleaned. In short, the brochure can be understood to describe either a first generation prior art device or the second generation device described in the '056 patent.

Despite this ambiguity, Engström's reply to Phelps' letter in November 1984 is far more telling both in what it said and when it said it. His letter explicitly refers to the second generation device and "new biopsy needles suitable for the device." Since the second generation device requires a needle that moves both forward and rearward, unlike the prior art TruCut needle, Engström's letter is a clear offer for sale of the second

generation device and new biopsy needles. With the exception of a reference to marketing efforts being made in the United States and the possibility of sales through a United States distributor thereafter, this letter was written entirely in the present tense.

The letter was also written after a series of correspondence between Radiplast and Hart Enterprises, a United States medical device manufacturer, addressing tooling and manufacturing costs for these new biopsy needles. On September 4, 1984, Engström had written: "Enclosed please find . . . a drawing on the biopsy needle. The stainless steel parts are not the final ones, there could be changes in length, diam. and the design of the point." On September 28, 1984, Hart Enterprises responded: "[E]nclosed are two drawings, one of the Stylet Hub and one of the Cannula Hub for your Radiplast Biopsy Needle. If you approve these concepts we will proceed to make a prototype, and then production of the molds." Radiplast replied on October 18, 1984: "Biopsy needles: Enclosed please find our 'order for tooling and engineering. We approve your design of the plastic parts. The dimension from the top surface to center line of both cannula and stylet should be 4.2 mm. Regarding the needles we will probably start with 2,000 — 3,000 units bulk packed." Less than one month later, Engström sent Phelps the November 12, 1984, letter.

These facts alone are sufficient support for the jury's verdict that there was a definite offer for sale of something more than the TruCut prior art or first generation needles. However, to apply the on sale bar, the jury also had to decide whether this offer for sale of new biopsy needles was an offer of the invention claimed in the '056 patent. We review this second presumed factual finding for substantial evidence, and like the district court on its denial of Bard's motion for judgment as a matter of law, we also consider whether there may be policy considerations against imposing the on sale bar.

II. Offer of the Claimed Invention

Bard claims that Radiplast's November 1984 offer to sell second generation devices and new biopsy needles cannot trigger the bar because at that time no operable device had been made, FDA approval had not been obtained, Radiplast had not conducted clinical testing, it had not found a United States distributor, and it had not developed a final needle design. Bard misapprehends the legal significance of each of these. Clinical testing is not required before a sale can bar patent rights. Nor can subsequent clinical testing

excuse a prior sale, if what was offered for sale was the claimed invention. Clinical testing is merely one possible policy reason why a particular sale might be excused from the bar. Since Radiplast did not contemplate sales to Engström for testing purposes, the possibility of subsequent clinical testing is of no moment. Likewise, FDA approval is not required before a sale can bar patent rights. Even an illegal sale of the claimed invention before the critical date can bar patent rights. Nor is a domestic distributor relevant to the on sale bar inquiry; a sale by a foreign distributor, from a foreign country to the United States can bar patent rights. See, e.g., *In re Vaceney*, 761 F.2d 671, 676-77, 226 USPQ 1, 4 (Fed. Cir. 1985).

The first of Bard's two remaining arguments — that no operable device had been made — is a feint because manufacture of an operable device is not a prerequisite for application of the on sale bar. See, e.g., *Barnag*, *Barmer Maschinenfabrik AG v. Murata Machinery, Ltd.*, 731 F.2d 831, 837, 221 USPQ 561, 565 (Fed. Cir. 1984). While operability may or may not be relevant, see, e.g., *UMC*, 816 F.2d at 656, 2 USPQ2d at 1472 (reduction to practice is not a requirement for application of the on sale bar), manufacture of an operable device alone is not, see, e.g., *Continental Plastic Products, Inc. v. Owens Brockway Plastic Containers, Inc.*, 141 F.3d 1073, 1078-79, 46 USPQ2d 1277, 1281 (Fed. Cir. 1998) (declining to extend exception from public use bar under section 102(b) in design patent case). Operability is relevant only to the extent it demonstrates that a claimed element of the invention had not yet been invented, or the inventors did not know they had a workable invention and thus had nothing to offer for sale. See, e.g., *Petrolite Corp. v. Baker Hughes, Inc.*, 96 F.3d 1423, 1427, 40 USPQ2d 1201, 1204 (Fed. Cir. 1996) ("[T]he thrust of the on-sale inquiry is whether the inventor thought he had a product which could be and was offered to customers, not whether he could prevail under the technicalities of reduction to practice . . ." (quoting *Paragon Podiatry Lab., Inc. v. KLM Lab., Inc.*, 984 F.2d 1182, 1187 n.5, 25 USPQ2d 1561, 1570 n.5 (Fed. Cir. 1993))). Bard has not asserted the second circumstance, and as explained below, the alterations made after the offer for sale to Phelps did not address inventive aspects of the '056 patent's new biopsy needle.

As support for its remaining contention — that it had not developed the final design of the biopsy needle — Bard points to Engström's testimony, as managing director of Radiplast, and correspondence between Ra-

diplast, American Pharmaseal, (one of Radiplast's potential distributors in the United States), and Alan Taylor (president of Hart Enterprises). Each of these letters was sent after the November 1984 offer for sale to Phelps, and each evidences continued testing of and proposed modifications to the second generation device and the new biopsy needles.*

Engström testified that American Pharmaseal's research and development laboratories conducted in-house testing. A technical report produced after this testing says that "testing [was] to insure functionality of the spring loaded activator, the Biopsy device, and the needle before releasing them to the field trial." As a result of its testing, American Pharmaseal recommended: "increas[ing] the strength of the stylet handle design and add[ing] the buffing operation to cannula grinding process." Engström testified that this advice was "to, how do you say, make some changes on the plastic parts and also the — what do you call that — well, the for some plastic parts broke actually, so we put some, a stopper in the second generation device to prevent, if that happened, to prevent the stylet to go further on." Engström testified that on American Pharmaseal's advice, Radiplast added a "stop" to the second generation device, after the offer to Phelps.

Engström also testified that Radiplast conducted field trials in December 1985, from which it learned that "there was a potential risk for this one snapping back and hurt the doctor's hand," and "many patients thought the noise of the instrument was very disturbing." As a result, Radiplast added "an automatic retraction, a spring, actually, which took this handle back," and "some damping things, you know, to reduce the noise of the instrument." After these field trials, Engström sent a letter to Hart Enterprises on January 15, 1985, which stated: "The needle should be changed according to our phone discussion, which means that the wings of the cannula hub should have the same length. Both should be as long as the shortest wing." A letter from Hart Enterprises to Engström on January 25, 1985, enclosed three drawings that show "[t]he cannula and stylet hub dimensions are identical to the drawings and prototype you had

previously received, with the exception that the cannula hub wings are now [sym]metrical."

This evidence suggests that Radiplast modified the second generation device by altering the strength of the stylet handle design, adding a buffing operation to the cannula grinding process, a stopper, automatic retraction via a spring, damping to reduce noise, and equal length symmetrical cannula hub wings as long as the shortest wing. However, Bard cannot avoid the on sale bar merely by showing improvements to the invention after its commercialization. See, e.g., *Seal-Flex, Inc. v. Athletic Track and Court Constr.*, 98 F.3d 1318, 1324, 40 USPQ2d 1450, 1454-55 (Fed. Cir. 1996). These changes must be something more than obvious mechanical adjustments; they have to be inventive redesigns that are claimed by the '056 patent. While some of Radiplast's changes resulted in different possible embodiments of, or additions to, the new biopsy needle that is claimed by the '056 patent, none of the changes are claimed in the text of the '056 patent. Moreover, contrary to Bard's contentions, its evidence suggests at the very least that Radiplast had "reason to expect" in November 1984, that its needle "would work for its intended purpose upon completion." *Micro Chemical, Inc. v. Great Plains Chemical Co., Inc.*, 103 F.3d 1538, 1545, 41 USPQ2d 1238, 1244, and that Radiplast had more than a mere conception from which it was working towards development, see *UMC*, 816 F.2d at 657, 2 USPQ2d at 1472.

Because Bard's evidence shows nothing beyond unclaimed mechanical adjustments to the needle design claimed in the '056 patent after the November 1984 offer for sale of new biopsy needles, the jury had substantial evidence in support of its finding that the November 1984 offer for sale generated a statutory bar. See, e.g., *Robotic Vision Sys., Inc. v. View Eng'g, Inc.*, 112 F.3d 1163, 1167, 42 USPQ2d 1619, 1623 (Fed. Cir. 1997). A contrary view would attribute to the '056 patent additional limitations taken from later developed commercial embodiments. Because the claimed invention had been completed, Engström's new biopsy needle design calls for an outcome different from *Robotic Vision*, 112 F.3d 1163, 42 USPQ2d 1619 (remanded for further fact finding on the completion date of a computer software program), *Micro Chemical*, 103 F.3d at 1544, 41 USPQ2d at 1243 (only a proposed configuration existed and the invention remained to be completed), and *Shatterproof Glass*, 758 F.2d at 623, 225

*Reliance on Engström's trial testimony is inherently less reliable than contemporaneous documentary evidence. Cf. *TP Lab., Inc. v. Professional Positioners, Inc.*, 724 F.2d 965, 972, 220 USPQ 577, 583 (Fed. Cir. 1984) (inventor's expressions of "subjective intent . . . particularly after institution of litigation, is generally of minimal value").

USPQ at 640 (a reasonable jury could have found that "apparatus and method of the claims were not functional").

III. Policy Considerations

Other than the need for sufficient time to test the new biopsy needle design, which is not a policy consideration summoned by the November 1984 offer, Bard has not argued that there are policy considerations weighing against imposition of the on sale bar. Since the policies that underlie the bar focus on the inventor's attempts to exploit the invention, not whether a potential purchaser was made aware of or understood it, discussion of Phelps' actual knowledge of the details of the invention or the differences between generations of the biopsy gun is irrelevant. See, e.g., *Ferag*, 45 F.3d at 1568, 33 USPQ2d at 1516 ("We emphasize that this is an objective test, and that at its heart lies the inventor's attempt to commercialize the invention . . . [T]he measure of the bar is what was offered, not the patentee's intent.") In light of the strong policy of preventing exploitation of the commercial value of an invention while deferring commencement of the statutory term, I would affirm the jury's application of the on sale bar.

Bryson, J., concurring in part and dissenting in part.

I concur in the portion of the court's opinion upholding the jury's verdict of non-infringement of the '308 patent. I also concur in the portions of the court's opinion reversing the district court's judgment that the '308 patent is invalid, and overturning the jury's verdict on the issue of fraud. Accordingly, I join parts II-V, VI.A-B, and VII of Judge Newman's opinion.

With respect to portions of the judgment relating to the '056 patent, I agree with Chief Judge Mayer that the '056 patent is invalid under the "on-sale bar" of 35 U.S.C. § 102(b), although I take a somewhat different analytical path to that conclusion, as discussed below. Because I conclude that the '056 patent is invalid based on the on-sale bar, I do not reach the other grounds on which the jury found the '056 patent invalid.

Finally, Chief Judge Mayer and I agree that the jury verdict on M3's antitrust counterclaim must be affirmed. Because we do not uphold all of the grounds on which the jury found liability, however, we conclude that the jury may have improperly assessed damages on liability grounds that cannot stand. We therefore must remand for further proceedings to determine the proper amount

products to hospitals for the field trials. Following the in-house testing, Pharmaseal reported only minor problems and made minor manufacturing suggestions, such as recommending that Radiplast strengthen the stylet hub design and add a buffing operation to the cannula grinding process.

Although Bard contends that Dr. Lindgren attended some of the field trials and that Radiplast "was continually advised by Pharmaseal of [their] progress," Dr. Lindgren testified that he did not exercise any control over the tests, that he did not recall ever seeing the instrument used during a test, and that he did not receive or maintain any data from the tests. Bard appears to concede that the test results were not maintained in confidence, and it points to no evidence showing that the primary purpose of the tests was to ensure that the claimed features of the invention would operate as intended.

The field testing was performed at the behest of Pharmaseal, the purchaser, not Radiplast or the inventor. Pharmaseal "assumed primary responsibility" for the tests, while Radiplast merely "had an ongoing interest" in the progress of the trials and "was kept informed" of the progress of the field trials. During the field trials, Pharmaseal and Radiplast continued to discuss market potential, potential prices and volumes, and an instructional videotape to teach proper use of the instruments.

B

Bard argues that the jury verdict cannot stand because the in-house testing at Pharmaseal and the hospital field trials show that the sale was for experimental testing purposes. The so-called "experimental testing" exception to the on-sale bar applies only if commercial exploitation is "merely incidental to the primary purpose of experimentation to perfect the invention." *Barmer Maschinenfabrik AG v. Murata Mach., Ltd.*, 731 F.2d 831, 839, 221 USPQ 561, 567 (Fed. Cir. 1984). In determining whether the inventor made the sale in question for purposes of determining whether the invention would work for its intended purpose, a court must consider various factors, such as the amount of control the inventor exercised over the testing; the length of the test period; whether any payment was made; whether there was a secrecy obligation; whether progress records were kept; whether someone other than the inventor conducted the experiments; and the degree of commercial exploitation during the tests in relation to the purpose of the experimentation. *Baker*

Oil Tools, Inc. v. Geo Vann, Inc., 828 F.2d 1538, 1564, 4 USPQ2d 1210, 1214 (Fed. Cir. 1987). Certain factors, such as the requirement that the inventor control the testing, that detailed progress records be kept, and that the purported testers know that testing is occurring, are critical to proving experimental purpose. *Lough v. Brunswick Corp.*, 86 F.3d 1113, 1120, 39 USPQ2d 1100, 1105 (Fed. Cir. 1996) ("if the inventor has no control over the alleged experiments, he is not experimenting"); see generally 2 Donald S. Chisum, *Patents* § 6.02[7][c] (1998).

The evidence shows that Radiplast's primary purpose in making the sale to Pharmaseal was to market the patented invention through Pharmaseal, not to conduct tests to determine whether the claimed invention would work for its intended purpose. Neither the in-house testing at Pharmaseal nor the field trials at hospitals were conducted under the control or supervision of the inventor or Radiplast; instead, the tests were proposed, controlled, and monitored by Pharmaseal, the purchaser. Dr. Lindgren, the inventor, admitted at trial that he had no control over the field trials, that he did not maintain any test data, and that he did not recall receiving any test results. Radiplast was not aware of the identity of the patients in the field tests, the organs that were being biopsied, or the types of tests being performed; indeed, the patients were apparently not even informed that the biopsies were being conducted as part of a test. The hospitals participating in the field trials were told that the trials were intended as "a potential sales/distribution system for Radiplast devices." There is no evidence that any secrecy agreements were made with Pharmaseal, the hospitals, or any of the test participants. Finally, it is undisputed that Pharmaseal paid for the instruments and needles used in the tests. All of these factors point away from the conclusion that the sale was made for purposes of experimentation. See *Western Marine Elecs., Inc. v. Furuno Elec. Co.*, 764 F.2d 840, 846, 226 USPQ 334, 339 (Fed. Cir. 1985) (no experimental use where evidence pointed to market testing rather than experimentation).

Significantly, at the time of the sale of 250 needles in June 1985, Radiplast had an open offer to sell large quantities of needles to Pharmaseal at bulk discount prices. The January 21, 1985, telex had offered batches of up to 50,000 needles for a specific price, and smaller quantities of 10,000 and 20,000 needles for somewhat higher prices. The offer of such large quantities of needles was clearly for commercial, rather than experimental,

purposes, and by June 1985 it was clear that the needles that were being offered to Pharmaseal embodied the later-claimed invention. The bulk purchase offer provides further evidence that the June 1985 sale was not for experimental purposes. See *Seal-Flex, Inc. v. Atheric Trans. & Court Constr.*, 98 F.3d 1318, 1325, 40 USPQ2d 1450, 1455 (Fed. Cir. 1996) (Bryson, J., concurring) ("if the sale or offer in question embodies the invention for which a patent is later sought, a sale or offer to sell that is primarily for commercial purposes and that occurs more than one year before the application renders the invention unpatentable"). Thus, it appears that Radiplast was marketing the later-claimed needles commercially at least by late June 1985. Its willingness to sell smaller quantities of needles to Pharmaseal to use in its field tests was evidently an accommodation to Pharmaseal, which conducted its own tests before distributing the needles to hospitals and doctors. The fact that Radiplast recognized that Pharmaseal intended to test the needles before distributing them in bulk, however, did not make Radiplast's offer and sale in 1985 any less commercial in nature.

The facts of this case are analogous to those in *U.S. Environmental Products, Inc. v. Westall*, 911 F.2d 713, 15 USPQ2d 1898 (Fed. Cir. 1990). In *Westall*, this court affirmed a district court's conclusion that a patent was invalidated by a sale more than one year before the filing date. That conclusion was based primarily on (1) the lack of written progress records and the failure to adhere to a testing schedule; (2) the inventor's failure to maintain control over the testing; and (3) promotion of the invention during the testing. *Id.* at 717-18. In this case, as in *Westall*, the evidence shows that neither the in-house tests at Pharmaseal nor the field tests at hospitals were under the control of the inventor or his company. There is little or no evidence of any written progress records; indeed, the inventor was apparently never provided with any test results. Finally, the communications between Radiplast and Pharmaseal throughout the purported testing period emphasized commercial sales and projections, not controlled experimentation. Bard relies heavily on *Continental Can Co. USA, Inc. v. Monsanto Co.*, 948 F.2d 1264, 20 USPQ2d 1746 (Fed. Cir. 1991), for the proposition that providing price estimates for future sales does not otherwise vitiate the experimental testing exception. In *Continental*, however, this court noted that "no sales were ever made"; there was a joint development project between two companies to develop the invention; and the project was "cloaked in confidentiality." 948 F.2d at

1269-70, 20 USPQ2d at 1750. Because the circumstances in *Continental* are so different from the circumstances in this case, *Continental* is of no help to Bard.

C

Bard also contends that the Pharmaseal sale cannot constitute a bar under 35 U.S.C. § 102(b) because Radiplast did not make a profit on the transaction. The jury heard testimony, however, suggesting that Radiplast made a 60% profit on the Pharmaseal sale. Even ignoring any actual profit on the devices used in the field trials, it is clear that the Pharmaseal transaction was made primarily to develop a market for future sales, not primarily to test the claimed invention. At any rate, the failure to turn a profit is not determinative. "A patent owner may have created an on-sale bar despite losing money on a sale." *U.S. Envtl. Prods., Inc. v. Westall*, 911 F.2d 713, 717, 15 USPQ2d 1898, 1902 (Fed. Cir. 1990).

II

In support of its antitrust counterclaim, M3 presented three theories to the jury: (1) that Bard committed fraud in the procuring its patents (the *Walker Process* theory); (2) that Bard acted in bad faith in enforcing its patents (the "sham litigation" theory), and (3) that Bard modified its Biopsy gun for the purpose of preventing its competitors' needles from being used in that gun. Bard challenges the sufficiency of the evidence to support the jury's verdict on each of those three theories. The panel is unanimous in concluding that the evidence is insufficient to support liability on the *Walker Process* and "sham litigation" theories. Chief Judge Mayer and I agree, however, that there is sufficient evidence to affirm the jury's antitrust liability verdict based on Bard's gun modification program, for the reasons set forth below.

A

The jury considered evidence that Bard modified its Biopsy gun to prevent its competitors' non-infringing, flangeless needles from being used in Bard's guns. By special verdicts, the jury found that there was a relevant product market for replacement needles for fully automated reusable biopsy guns, that Bard had monopoly power in that market, and that it had acquired or maintained its monopoly power in that market through restrictive or exclusionary conduct.

not challenge the court's instructions, however, the legal sufficiency of the jury charge on the antitrust issues is not properly before on appeal. To be entitled to relief based on asserted errors in the court's instructions to the jury, Bard was required to challenge those instructions in this court and demonstrate that it timely objected to those instructions in the district court. Bard did neither, but instead based its argument entirely on the sufficiency of the evidence. Because the evidence is sufficient to support the verdict on the gun modification theory of liability, the jury's liability verdict must stand. See *Mangren Research & Dev. v. National Chem. Co.*, 87 F.3d 937, 942 n.3 (7th Cir. 1996); *Composite Marine Propellers, Inc. v. Van Der Woude*, 962 F.2d 1263, 1265 (7th Cir. 1992).

B

While we affirm Bard's liability on the antitrust counterclaim, that does not necessarily mean that the jury's damage award of \$1.5 million can be sustained. M3 presented evidence of three different markets (guns, guns and needles, and replacement needles) in which Bard allegedly caused antitrust injury, and the jury found Bard liable for injury in each market. The damages portion of the verdict, however, merely indicated a general award of \$1.5 million without attribution to a particular market or exclusionary practice.

M3's evidence concerning Bard's gun modification program was relevant only to the replacement needle market. Because we have concluded that the evidence concerning Bard's activities in the other two markets cannot support antitrust liability, the question arises as to whether the \$1.5 million damages award can be supported solely on the basis of the injury Bard's actions caused to M3 in the replacement needle market. That issue was not briefed on appeal, and the record, so far as we can ascertain, does not provide clear guidance as to the proper allocation of damages due to the injury suffered by M3 in the injury replacement needle market. Consequently, we vacate the antitrust damages award and remand to the district court to consider, after additional hearing or limited retrial, if necessary, the proper amount of damages attributable to Bard's gun modification program. See *MCI Communications Corp. v. American Tel. & Tel. Co.*, 708 F.2d 1081, 1166-67 (7th Cir. 1983).

[13] In order to prevail on its claim of an antitrust violation based on Bard's modification of its Biopsy gun to prevent the use of competing replacement needles, M3 was required to prove that Bard made a change in its Biopsy gun for predatory reasons, i.e., for the purpose of injuring competitors in the replacement needle market, rather than for improving the operation of the gun. See *In re IBM Peripheral EDP Devices Antitrust Litig.*, 481 F. Supp. 965, 1002 (N.D. Cal. 1979), *aff'd sub. nom. Transamerica Computer Co. v. International Bus. Mach. Corp.*, 698 F.2d 1377 (9th Cir. 1983); see generally 1 ABA, *Antitrust Law Developments* 286-87 (4th ed. 1997). Bard argues that the evidence showed that absent patent protection for Bard's devices, M3 could still compete in the relevant market. While the evidence of Bard's market power was in dispute, the jury specifically found that Bard enjoyed monopoly power in the market for replacement needles. The evidence was sufficient to support the jury's verdict on that point and also to support the jury's conclusion that Bard maintained its monopoly position by exclusionary conduct, to wit, modifying its patented gun in order to exclude competing replacement needles.

The dissent on this issue starts from the premise that the modification to Bard's Biopsy gun was an "improvement" and argues from that premise that to hold Bard liable for the modification would have the "pernicious" effect of penalizing innovators for making improvements to their products. The dissent's premise, however, is contrary to the jury's verdict, which was supported by the evidence. Although Bard contended at trial that it modified its Biopsy gun to make it easier to load and unload, there was substantial evidence that Bard's real reasons for modifying the gun were to raise the cost of entry to potential makers of replacement needles, to make doctors apprehensive about using non-Bard needles, and to preclude the use of "copycat" needles. One internal Bard document showed that the gun modifications had no effect on gun or needle performance; another internal document showed that the use of non-Bard needles in the gun "could not possibly result in injury to either the patient or the physician." In view of that evidence, the jury could reasonably conclude that Bard's modifications to its guns constituted "restrictive or exclusionary conduct" in a market over which it had monopoly power.

The dissent also takes issue with the jury instructions, contending that they failed properly to frame a charge of predatory conduct that comports with established criteria of antitrust liability. Because Bard did

The action will accordingly be dismissed without prejudice.

Dismissal as opposed to transfer is the relief granted here. The latter is undoubtedly permissible since the alleged cause of action arose in Massachusetts, and Damon, Vineland and (recently) Zoo-Techniques have conceded the propriety of venue and their amenability to service there. 28 U.S.C. §§1404(a) and 1406(a). Goldlawr, Inc. v. Heiman, 369 U.S. 463 (1962); Internatio-Rotterdam, Inc. v. Thomsen, 218 F.2d 514 (4th Cir. 1955). Since the only connection Virginia has with the action is that Robins is a Virginia corporation, a transfer might be appropriate. However, with a motion to transfer to Virginia pending in Massachusetts, this Court is unwilling to preempt that Court's consideration of the motion by transferring the action.

Cases cited by Zoo-Techniques against in personam jurisdiction seem more applicable to the present situation. In *Ajax Realty Corp. v. J. F. Zook*, 493 F.2d 818 (4th Cir. 1972), the Fourth Circuit refused to accept in personam jurisdiction over a Washington window frame manufacturer whose sole contact with Virginia was to send frames to an in-state customer at the behest of an independent dealer. While recognizing Virginia's single transaction rule as held in *John G. Kolbe v. Chromodern Chair Co.*, supra, the court found that the shipment did not constitute a single transaction and rejected the theory that a "manufacturer transacts business in every state in which each of its independent distributors deals." 493 F.2d at 821. In the present case, Zoo-Techniques has not even directly shipped to Virginia, making for an even stronger case against personal jurisdiction than in *Ajax*.

In *PPS, Inc. v. Jewelry Sales Representatives*, supra, the court found in personam jurisdiction over a foreign jewelry manufacturer through jurisdiction over its exclusive distributor. The fact that the agent was the sole dealer was not the touchstone of personal jurisdiction but that in performing in that capacity the agent acted only as a conduit; the manufacturer retained the power to accept or reject solicited customers and set prices. In the present case Vineland solicits and accepts its own customers and sets its own prices without reference to Zoo-Techniques.

The Court having found there is insufficient nexus between Zoo-Techniques and Vineland to attribute the latter's actions to the former, it is unnecessary to examine the second question as to whether Vineland's actions in Virginia are sufficient to find in personam jurisdiction over Vineland pursuant to the long-arm statute.¹¹

¹¹ Vineland's action in Virginia poses a question heretofore left open by the Fourth Circuit in interpreting §8.01-328.1. In *Eleftheriou v. Tanker Archontessa*, 443 F.2d 185, 189 (4th Cir. 1971).

District Court, District of Columbia

*Berghauser et al.
v. Dann, Commissioner of Patents and Trademarks*

No. 76-0089

Decided Mar. 14, 1973

Patent No. 4,153,461 issued May 8, 1979

PATENTS

1. Revised statutes 4915 suits (35 U.S.C. 145) — Weight given decisions being reviewed (\$59.30)

Decisions of Patent and Trademark Office tribunals are presumptively correct.

2. Revised statutes 4915 suits (35 U.S.C. 145) — Weight given decisions being reviewed (\$59.30)

Factual findings of Patent and Trademark Office are to be sustained unless reviewing court is thoroughly convinced they are erroneous.

3. Patentability — Evidence of — Commercial success — In general (\$51.4551)

Commercial success is evidence of unobviousness.

4. Patentability — Anticipation — Combining references (\$51.205)

Patentability — Invention — In general (\$51.501)

Mere fact that disclosures of references can be combined does not make combination obvious; unless art also suggests desirability of combination.

5. Patentability — Evidence of — Suggestions of prior art (\$51.469)

Nonobviousness of invention is supported by fact that one skilled in art would not have searched for solution to problem in direction that inventors took.

Particular patents — Printing Plates

Berghauser and Uhlig, Layer Support for Light-Sensitive Material Adapted to be Converted into a Planographic Printing Plate, rejection of claims 6 through 8 reversed.

Action by Gunter Berghauser and Fritz Uhlig, against C. Marshall Dann, Commissioner of Patents and Trademarks, for issuance of patent. Judgment for plaintiffs. James E. Bryan, Alexandria, Va., for plaintiffs.

Joseph F. Nakamura for defendant.

Smith, District Judge.

Pursuant to Rule 53 of the Federal Rules of Civil Procedure, this case was referred by United States District Court Judge John Lewis Smith, Jr., to United States Magistrate Lawrence S. Margolis as a Special Master, to make all necessary findings of fact and conclusions of law with respect to the issues presented.

The Plaintiffs, Gunter Berghauser and Fritz Uhlig, seek reversal of the decision of the Board of Appeals of the United States Patent and Trademark Office, dated November 18, 1973. This decision affirmed the decision of the Patent Examiner which rejected claims 6 to 8 of Plaintiffs' application serial no. 303,513, filed November 3, 1972. As a result of this denial of their application, Plaintiffs seek an award from this Court of a patent containing claims 6 to 8. 35 U.S.C. §145.

The Defendant, C. Marshall Dann, is the Commissioner of Patents and Trademarks of the United States. In capsule, the Defendant claims 35 U.S.C. §103 prohibits awarding a patent on Plaintiffs' application since the claimed invention is obvious in view of the prior art.

Plaintiff contends the United States Patent and Trademark Office fundamentally misapprehends their invention and has rejected their application on erroneous grounds.

A one day trial was held in which two witnesses testified on behalf of the Plaintiffs. The Defendant presented no witnesses, relying principally on cross-examination and the record before the United States Patent and Trademark Office.

The disputed invention relates to a chemically treated aluminum base used in the manufacture of presensitized planographic printing plates. The surface of the invention is the reaction product of phosphoric acid, referred to in the record as the "adhesive," with an anodically produced aluminum oxide layer. Plaintiffs claim their invention exhibits definite advantages over the prior art in that (1) it is less subject to deterioration; (2) its improved surface properties are less conducive to ink "scumming" during the printing process; (3) it produces a superior printed image; and (4) it permits a larger number of impressions to be printed.

The Patent Office contends Plaintiffs' claims are obvious in view of the prior art, taken collectively, as evidenced by Uhlig patent no. 3,220,832 (another printing related

patent awarded to one of the Plaintiffs), Sus et al., Australian patent no. 273,775, and Kirk-Othmer, Encyclopedia of Chemical Technology.

The Uhlig and Sus et al. patents involve an aluminum base having a surface which is the reaction product of phosphonic acid with a Boehmite layer. Both patents indicate the aluminum base can be covered with a layer of Boehmite, prior to coating with phosphonic acid. This base, like the invention in dispute, is used in the manufacture of presensitized printing plates.

The Uhlig and Sus et al. patents do not expressly refer to an anodically produced aluminum oxide layer. However, these two patents, relied on by the Patent Office as prior art, do refer to a Boehmite layer which reacts with phosphonic acid. Boehmite is hydrated aluminum oxide and is encompassed by the generic term "aluminum oxide." The Patent Office argues the Kirk-Othmer reference teaches that Boehmite can be produced by anodizing aluminum; consequently, the Patent Office concludes the only difference between the Plaintiffs' invention and prior art is the express recitation of "anodically produced" with respect to the formation of the aluminum oxide layer. (Decision of the Board of Appeals, p. 2).

To the Patent Office, Plaintiffs' invention is obvious since the Uhlig and Sus et al. patents teach the treatment of a Boehmite coated aluminum base with phosphonic acid and Kirk-Othmer discloses that Boehmite can be produced by anodizing aluminum and then quenching the oxide layer so formed in hot water. (Examiner's Answer pp. 2, 4, 5).

The Plaintiffs contend nothing in the prior art of Uhlig or Sus et al. suggests an anodically produced aluminum oxide layer. Moreover, they argue that since Boehmite and aluminum oxide possess completely different chemical properties, citation to one can not be interpreted as reference to the other. In essence, the parties assert opposing interpretations of the significance of these oxides. To the Plaintiffs, anodically produced aluminum oxide is drastically different from Boehmite; to the Patent Office it is not. Whether distinguishing Boehmite from aluminum oxide is a distinction without a substantial difference, as the Patent Office contends, or whether these substances are distinctively different, as Plaintiffs assert, is central to this dispute.

Findings of Fact

1. This is a civil action brought under 35 U.S.C. §145. Plaintiffs, Gunter Berghauer

and Fritz Uhlig, citizens of the Federal Republic of Germany, seek reversal of a decision of the Board of Appeals of the United States Patent and Trademark Office which denied their patent application serial no. 303,515, entitled "Aluminum Printing Plate Base Having a Modified Oxidized Surface." (Pl. Ex. 2, p. 2). This instant application is a continuation application of parent application serial no. 780,597, filed December 2, 1968, now abandoned.

2. The defendant, C. Marshall Dann, is the Commissioner of Patents and Trademarks of the United States.

3. In a decision dated November 18, 1975, The Board of Appeals of the United States Patent and Trademark Office affirmed the Examiner's decision rejecting, as obvious in view of prior art, claims 6 to 8 in Plaintiffs' application. Claims 6 to 8 were the only claims in the application.* (Pl. Ex. 2, pp. 15, 71).

4. The basis for the Patent Office's rejection of Plaintiffs' claims was that they were obvious in view of prior art. 35 U.S.C. §103. (Def. Ex. 1, pp. 62-63. Pl. Ex. 2, pp. 72-73). The prior art relied upon by the Patent Office was Uhlig patent no. 3,220,832, Sus et al., Australian patent no. 273,775, and Kirk-Othmer, Encyclopedia of Chemical Technology.

5. The Uhlig and Sus et al. patents disclose an aluminum base used in the manufacture of presensitized printing plates, the surface of which is the reaction product of phosphonic acid with a Boehmite layer.

6. One of the Plaintiffs, Fritz Uhlig, is the patentee of U.S. patent no. 3,220,832, which was cited as part of the prior art relied upon by the Patent Office in rejecting the Plaintiffs' application. (Def. Ex. 1A, p. 61). The Uhlig patent and the Sus et al. patent involve an aluminum base used in the manufacture of presensitized printing plates. The surface of this aluminum base is coated with a layer of Boehmite and treated with phosphonic acid. The reaction product

* The claims read as follows:

6. An aluminum base, for use in the manufacture of presensitized printing plates, having a surface which is the reaction product of polyvinyl phosphonic acid with an anodically produced aluminum oxide layer having a thickness in the range of about 0.0002 to 0.01 mm.

7. An aluminum base according to claim 6 including a light-sensitive layer on the surface.

8. An aluminum base according to claim 7 in which the light-sensitive layer contains a compound selected from the group consisting of diazo and azido compounds.

of the phosphonic acid with the Boehmite coating forms the surface of the base. (Def. Ex. 1C, Col. 2, lines 3-10; Col. 3, lines 70-75; Def. Ex. 1D, p. 3, lines 3-19).

7. Boehmite is hydrated aluminum oxide. (Tr. 36). It falls within the generic term "aluminum oxide." (Tr. 62). However, there are a number of different aluminum oxides which fall within the generic term "aluminum oxide." (Tr. 62).

8. Plaintiffs' invention involves the use of an anodically produced aluminum oxide layer. This layer differs significantly from Boehmite, another form of aluminum oxide. (Tr. 34-35, 51). Plaintiffs' anodically produced aluminum oxide is hard (Tr. 30), non-crystalline, and anhydrous (Tr. 35). Boehmite is hydrous (Tr. 35, 75), crystalline, and soft (Tr. 35).

9. Boehmite cannot be produced anodically, unlike aluminum oxide. (Tr. 123, 124, 127, 132). Boehmite can be created by dipping aluminum into hot water. (Tr. 132).

10. The Uhlig patent does not disclose the process through which Boehmite layers are formed on the aluminum base. The Sus et al. patent alludes to a hot water treatment. (Def. Ex. 1D, p. 3, lines 16-19).

11. The Uhlig and Sus et al. patents differ from the Plaintiffs' claims. These two patents make no express reference to an anodically produced aluminum oxide layer. (Tr. 79-80, 121-123).

This difference is significant (Tr. 79), although Boehmite and aluminum oxide are both oxides. (Tr. 34-35).

12. The Boehmite layers in Uhlig and Sus et al., read in light of Kirk-Othmer, do not fall within the Plaintiffs' claim of an "anodically produced aluminum oxide layer." Boehmite cannot be produced anodically. (Tr. 123-124). Kirk-Othmer does not indicate that Boehmite can be produced anodically. (Tr. 70-75). Neither does the Kirk-Othmer reference suggest that the formation of an anodically produced aluminum oxide layer may be used in making a printing plate. (Tr. 35, 58-59, 71-75).

13. The Sus et al. patent does not suggest the anodic formation of aluminum oxide in its reference to anodic cleaning of aluminum. (Tr. 51-54).

14. The Uhlig patent's reference to electrolytic roughening of the aluminum base does not suggest the anodic production of aluminum oxide. (Tr. 36-40). These processes are essentially different. Their similarities are only superficial. (Tr. 40).

15. The references in Uhlig and Sus et al. to Boehmite do not fall within the language

of Plaintiffs' claims even though Boehmite falls within the generic term "aluminum oxide." A small amount of Boehmite on Plaintiffs' anodically produced aluminum oxide layer has no effect on the length of a printing run of Plaintiffs' plates. (Tr. 102-104). A large amount of Boehmite on Plaintiffs' anodically produced aluminum oxide layer greatly reduces the length of a printing run of Plaintiffs' plates. (Tr. 104-105).

16. Plaintiffs' anodically produced oxide layer is an essential feature of the invention. (Tr. 106).

17. Plaintiffs' combination of phosphonic acid with an anodically produced aluminum oxide layer unexpectedly resulted in enhancing the developability of the plate. (Tr. 36-37, 117-118).

18. Printing plates using Plaintiffs' anodized aluminum base reacted with phosphonic acid enjoy an unexpectedly improved shelf life, as opposed to plates in which an anodized aluminum base is not treated with phosphonic acid. (Tr. 35-36, 94-101). The shelf life test is one indication of the ease and speed of developability. (Tr. 95).

19. The present invention is quite superior to that disclosed in the Uhlig patent. (Tr. 104-108). For example, with Plaintiffs' alleged invention the length of a printing run is about 35,000 prints whereas the printing run for the prior art is only about 2,000 prints (Pl. Ex. 10); 33,000 prints with Plaintiffs' alleged invention as opposed to 1,000 prints for the prior art (Pl. Ex. 11); and 34,000 prints with Plaintiffs' alleged invention versus 7,000 prints for the prior art. (Pl. Ex. 13).

20. Plaintiffs' invention has enjoyed significant commercial success. (Pl. Ex. 3).

21. The present invention is unexpectedly superior to the prior art. (Tr. 112-115).

Conclusions of Law

[1] 1. The decisions of Patent and Trademark Office tribunals are presumptively correct. *Fields v. Schuyler*, 153 U.S. App. D. C. 229, 230; 472 F.2d 1304, 1305, 175 USPQ 514, 515 (D. C. Cir.), cert. denied, 411 U.S. 987, 177 USPQ 673 (1973).

[2] 2. Factual findings of the Patent and Trademark Office are to be sustained unless the reviewing court is thoroughly convinced they are erroneous. *Pro-Col Corporation v. Commissioner of Patents*, 436 F.2d 296, 297, 168 USPQ 17, 18 (D. C. Cir. 1970).

3. The decision of the Board of Appeals of the U.S. Patent and Trademark Office is clearly erroneous because of its emphasis on

a boehmite layer. The presence of boehmite is not relevant to the present invention.

4. The statement of the Board of Appeals that:

"Since both Uhlig and Sus discloses that the aluminum support may be provided with a boehmite layer, we see nothing obvious in producing the boehmite layer using the teachings of Kirk-Othmer. The claimed structure would clearly result." (Pl. Ex. 2, p. 72).

is clearly erroneous.

5. Plaintiffs' invention is novel, useful, and unobvious.

6. Plaintiffs' invention produces unexpected results in view of prior art.

7. Plaintiffs' invention exhibits improved adhesion of the image areas to the support and improved ease of developability, when one skilled in the art would expect developability to be more difficult.

[3] 8. Commercial success is evidence of unobviousness.

[4] 9. The mere fact that disclosures of references can be combined does not make the combination obvious. The combination is not obvious unless the art also suggests the desirability of the combination. Application of Imperato, 486 F.2d 585, 587, 179 USPQ 730, 731-732 (C.C.P.A., 1973). Nothing in the prior art cited by the Patent Office suggests the desirability of combining the references relied upon in this case.

[5] 10. The nonobviousness of Plaintiffs' invention is supported by the fact that one skilled in the art would not have searched for the solution to the problem in the direction which the inventors took. *White v. Mar-Bel, Inc.*, 509 F.2d 267, 291, 185 USPQ 129, 131-132 (5th Cir. 1975).

11. The Plaintiffs are entitled to the grant of a patent containing claims 6 to 8 of their application serial no. 303,515, filed November 3, 1972.

Patent and Trademark Office

Trademark Trial and Appeal Board

General Mills Fun Group, Inc.

v. Tuxedo Monopoly, Inc.

Decided Nov. 29, 1979

TRADEMARKS

1. Opposition — Pleading and practice (\$67.589)

Record of opposer that ordered and made of record, pursuant to Trademark Rule 122(b), status and title copies of its pleaded registrations proves registrations' existence and ownership.

2. Opposition — Pleading and practice (\$67.589)

Opposer has burden of persuading Trademark Trial and Appeal Board by fair preponderance of evidence that applicant's use of mark on its goods is likely to cause confusion in view of opposer's previously used and registered identical mark for its goods.

3. Evidence — Judicial notice (\$36.20)

Marks and names subject to ownership — Descriptive — Misdescriptive or not descriptive — Particular marks (\$67.5076)

Trademark Trial and Appeal Board takes judicial notice that "famous" marks are frequently used on certain types of items, such as clothing, glassware, trash cans, and pillows, that are unrelated in nature to those goods on which marks are normally used. "Monopoly" is in category of famous marks, for board game.

4. Class of goods — In applications to register (\$67.205)

Presumption for purposes of opposition proceeding is that applicant's goods include items in low and middle as well as upper price ranges, that they move through all normal channels of trade for goods of that type, and that they are available to all purchasers of such goods, when identification of goods in application does not contain any limitations as to these matters, as there is nothing to preclude applicant from expanding its trade channels to include department stores and other similar outlets should economic or other factors dictate a need for such change.

5. Registration — Effect (\$67.747)

Certificate of registration of mark upon Principal Register constitutes prima facie evidence under Lanham Act Section 7(b) of registrant's exclusive right to use mark in commerce in connection with goods specified in certificate, and to exclude others from using same or similar mark for like or related goods.

6. Identity and similarity — In general (\$67.401)

Facts and circumstances surrounding applicant's adoption of its mark are of no particular significance if result is mark that, when applied to applicant's goods, conflicts with prior use and/or registration of same or similar mark by another.

7. Identity and similarity — How determined — Doubt against newcomer (\$67.4067)

Doubts as to likelihood of confusion must be resolved against newcomer and in favor of prior user.

8. Class of goods — Particular cases — Similar (\$67.2073)

Use of "Monopoly" for wearing apparel and for board game played with movable pieces is likely to cause confusion.

9. In general (\$67.01)

Class of goods — How determined — Emanating from same source (\$67.2033)

Opposition — Mark and use of opposer — In general (\$67.5831)

Opposer is not entitled to right in gross in its mark, which would be contrary both to established principles of trademark law and to Lanham Act Section 2(d); opposer is entitled to protection against registration by subsequent user of same or similar mark for goods distinctly different from those of opposer where record shows that special conditions or circumstances exist that are sufficient to support inference that purchasers encountering applicant's goods bearing its mark would be likely to mistakenly assume that applicant's goods are in some way connected with opposer.

Trademark opposition No. 57,732, by General Mills Fun Group, Inc., against Tuxedo Monopoly, Inc., application, Serial No. 431,254, filed July 31, 1972. Opposition sustained; Kera, Member, dissenting with opinion.

Nims, Howes, Collison & Isner, New York, N.Y., for General Mills Fun Group, Inc.
Virginia R. Richard, New York, N.Y., for Tuxedo Monopoly, Inc.

Before Rice, Fowler, and Kera, Members.
Rice, Member.

Tuxedo Monopoly, Inc. filed an application to register the trademark "MONOPOLY" for men's, women's, and children's wearing apparel — namely, dresses, skirts, coats, scarves, pantsuits, blouses, sweaters, jackets, shirts, slacks, shoes, belts, pantyhose and socks.

Registration of the mark has been opposed by General Mills Fun Group, Inc., which alleged prior and continuing use of the trademark "MONOPOLY" for a real estate trading game by its predecessor and itself; ownership of registrations of "MONOPOLY" for equipment comprising a board and movable pieces for use in playing a real estate trading game and for toy money and racks and tills suitable for holding same for use in the play of games; a wide and favorable reputation for the goods sold under the "MONOPOLY" mark; a celebrity of the "MONOPOLY" mark as a symbol of a valuable goodwill; the use of "MONOPOLY" by licensees on rugs, glassware, ice buckets, trays and giftware; the receipt of numerous requests to use "MONOPOLY" on diverse goods, including clothing and fabrics for clothing; the sale of opposer's and applicant's goods through the same stores and the advertising thereof through the same media; sales to the same customers; an identity of the parties' marks; and a likelihood that applicant's mark is likely to cause purchasers to believe that applicant's goods are made for or sponsored or endorsed by opposer, to the latter's damage.

Applicant admitted the issuance of the two registrations pleaded by opposer and that it did not use its mark in commerce prior to July 36, 1972 but denied the rest of the allegations in the notice of opposition. In addition, applicant pleaded affirmative defenses of unclear hands, trademark mis-

Serial No. 431,254, filed July 31, 1972, claiming first use on or about July 26, 1972.

Reg. No. 326,723, issued July 30, 1935 to a predecessor and assigned; twice renewed; republished under §12(c); affidavit under §8 accepted; affidavit under §15 received.

Reg. No. 338,834, issued Sept. 15, 1936 to a predecessor and assigned; twice renewed; republished under §12(c); affidavit under §8 accepted; affidavit under §15 received.

Photographs are a subject matter protected explicitly by the Act in section 102. See 17 U.S.C. §§101 & 102(a)(5). The cause of action does not "arise from undertakings commenced before January 1, 1978"; both the photographs and the infringement occurred after that date. Finally, these photographs do not involve any activities specified in 18 U.S.C. §106. Therefore, the parties' respective rights are governed exclusively by the Copyright Act.

The Act, as I discussed in detail in my prior opinion, establishes the validity of plaintiff's copyright. Defendants have argued at length that plaintiff's copyright is uncertain because of the "work made for hire" provisions of the Act. This argument is unpersuasive.

[3] First, the photographs do not fall into either category of "works made for hire."

¹ If a work does not fall within one of the [statute's] categories then even if it has been prepared by one person upon the special order or commission of another, it will not qualify as a "work made for hire," with the special legal consequences which flow from this designation.

M. NIMMER, NIMMER ON COPYRIGHTS §5.03 [B](2)(a) (1982). Defendants apparently admit that plaintiff's rights are not governed by the work for hire provisions. See Defendants Notice of Motion at 9-10. Rather,

In such circumstances, copyright ownership is affixed in the author.² Second, even if the provision did apply, because plaintiff would be an independent contractor, there would have to be some writing evidencing the transfer of his copyright to his subjects. See 17 U.S.C. §101. Plaintiff has stated in a sworn affidavit that there is no such writing or transfer. In the absence of defendants' putting any actual facts into issue, therefore, the granting of plaintiff's summary judgment motion was appropriate and is upheld.

So Ordered.

Defendants principally argue that the common law governs herein. As I have discussed above, however, the 1976 Act's provisions are exclusive in this area.

² Defendants cannot dispute that the photographer is the "author" of the photograph. Moreover, their speculation that there could be some kind of "joint" authorship has no evidentiary support. Summary judgment in such a context is appropriate. See *Exxon Corp. v. Federal Trade Commission*, 663 F.2d 120, 128 (D.C. Cir. 1980) ("It is not the intent of Rule 56 to preserve purely speculative issues of fact for trial . . .").

Court of Appeals, Federal Circuit

ACS-Hospital Systems, Inc.
v. Montefiore Hospital et al.

Nos. 83-1121 and 83-1132

Decided Apr. 27, 1984

PATENTS

1. Pleading and practice in courts — Burden of proof — Validity (§53.138)

Presumption from patent grant — In general (§55.1)

Presumption of validity is never annihilated, destroyed, or even weakened, regardless of what facts are of record; rather it is clear statutory procedural device that assigns to party asserting invalidity burden of proving invalidity; burden of persuasion is, and remains always, on party asserting invalidity.

2. Construction of specification and claims — In general (§22.01)

Construction of specification and claims — By specification and drawings — To save claim (§22.257)

Claims are to be read and construed in light of specification and prosecution history of patent; further, claim should be so construed, if possible, as to sustain their validity.

3. Construction of specification and claims — In general (§22.01)

Claim construction is question of law.

4. Patentability — Anticipation — Combining references (§51.205)

Obviousness cannot be established by combining teachings of prior art to produce claimed invention, absent some teaching or suggestion supporting combination; teachings of references can be combined only if there is some suggestion or incentive to do so, under 35 USC 103.

5. Infringement — Tests of — Comparison with claims (§39.803)

Infringement is determined on basis of claims, not on basis of comparison with patentee's commercial embodiment of claimed invention.

6. Court of Appeals for the Federal Circuit — Weight given decision reviewed (§26.59)

CAFC is confined to trial court's limited findings and is forced to draw from facts

found, those inferences that are necessary to support ultimate finding that patent is not infringed; in this endeavor CAFC does not itself find those facts that trial court failed to set out for it; as appellate court, CAFC lacks power to perform that exercise; where trial court fails to make findings, judgment will normally be vacated and action remanded for appropriate findings to be made; where full understanding may be had without aid of separate findings, however, narrow exception to that general rule is recognized; ultimate finding of fact in case, whether initially by trial court, or as affirmed on appeal, rests on same underpinnings, that is, necessary subsidiary facts, supported by evidence of record, that lead to ultimate finding; where district court has not misapplied controlling legal standards in its evaluation of evidence, its ultimate finding as well as subsidiary findings upon which ultimate finding necessarily depends, is subject to review on appeal under clearly erroneous standard of FedR/CivP 52(a); record is examined in order to review trial court's judgment, and findings it made or necessarily had to have made to support that judgment and, thus, to conclude controversy at appellate stage without unnecessary further expenditure of judicial resources, if possible.

7. Costs — Attorney's fees (§25.5)

Court of Appeals for the Federal Circuit — Weight given decision reviewed (§26.59)

Prevailing accused infringer must establish that trial judge abused his discretion in regard to accused infringer's motion for attorney fees, not merely that trial judge committed clear error, in order to prevail on cross appeal on that issue.

Particular patents — Television Switches

4,183,057, Sonnenberg, Actuating System for a Rental Television, holding of invalidity reversed; holding of noninfringement affirmed.

Appeal from District Court for the Western District of Pennsylvania, Dumbauld, J.; 220 USPQ 731.

Action by ACS Hospital Systems, Inc., against Montefiore Hospital, and Wells National Services Corporation, for patent infringement. From judgment for defendants, but denying attorney fees, both parties appeal. Modified.

Frank J. Benasutti, Philadelphia, Pa., for appellant.

David J. Cushing, Washington, D.C. (Daryl Mexic, Washington, D.C., on the brief) for appellees.

Before Miller and Smith, Circuit Judges, and Re, Judge.*

Smith, Circuit Judge.

In this patent case, ACS Hospital Systems, Inc. (ACS), appeals from a judgment of the U.S. District Court for the Western District of Pennsylvania holding U.S. patent No. 4,183,057, issued to Sonnenberg (the Sonnenberg patent), invalid as obvious under 35 U.S.C. §103 (1976) and not infringed. Montefiore Hospital and Wells National Service Corp. (Wells) cross-appeal from the district court's denial of their motion for attorney fees. The judgment is reversed with respect to invalidity and affirmed with respect to noninfringement. With respect to Wells' cross-appeal from the denial of attorney fees, the judgment is affirmed.

Background

ACS's Sonnenberg patent claims a rental television system comprising a key operated actuating switch, an override switch, and a signal light to indicate that the override switch has been actuated. When the key switch is in the "on" position, the television operates normally. For rental use, the key switch is placed in the "off" position by a key operator. In order to rent the television, the viewer depresses the override switch which enables the television to operate normally without the necessity of turning on the key operated switch. When the override switch has been activated the indicator signal is illuminated, signaling that the television has been rented. Claim 1 is representative:

A television system constructed for rental use, the television system comprising:
actuating means including a key operated switch switchable between an off position for preventing normal operation of the television and an on position for enabling the television to be operated;
override switching means capable of being switched from a normal

position to an actuated position for overriding said key operated switch when in its off position and enabling the television to be operated; and said override switching means when switched in to [sic] its actuated position remains in said position until said key operated switch is switched into its on position; and indicating means for providing an indicator signal when said override switching means has been switched into its actuated position.

Validity

The trial court held the claims of the Sonnenberg patent invalid under section 103. While the trial court's opinion deals predominantly with infringement, the court purported to apply the standards articulated in *Graham v. John Deere Co.*¹ in determining the issue of validity. In concluding that the Sonnenberg patent is invalid under section 103, the district court relied on override switches generally and ACS's "COMPU-TEL" fully automated television rental system as prior art.

The court below stated that "the overriding of switches by providing an alternative path for current to actuate an appliance is a commonly practiced technique well known in the art prior to Sonnenberg's patent." It held that his claim 1 is therefore invalid as obvious. The trial judge adopted Wells' expert's description of ACS's COMPU-TEL system and held the Sonnenberg patent invalid as an attempt by ACS to "monopolize all systems of enabling a hospital patient to view television *** without the aid of an attendant." (Emphasis in original.) He commented that "[t]he statutory presumption [of validity] of 35 U.S.C. §282 is entirely annihilated by the indisputable facts in the record."

Presumption of Validity

[1] As an initial matter, we hold that the trial court's treatment of the presumption of validity is incorrect as a matter of law. The presumption is never annihilated, destroyed, or even weakened, regardless of what facts are of record.² Rather, it is a clear statutory procedural device which assigns to the party

¹ *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966).

² *Strauch v. Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1534, 218 USPQ 871, 875-76 (Fed.Cir. 1983).

* The Honorable Edward D. Re, Chief Judge, United States Court of International Trade, sitting by designation.

asserting invalidity the burden of proving invalidity.³

A patent shall be presumed valid. The burden of establishing invalidity of a patent or any claim thereof shall rest on the party asserting such invalidity.⁴

The burden of persuasion is, and remains always, on the party asserting invalidity.⁵ In the present case this error is not harmless. The district court's holding of invalidity has been shown, on the entire record, to have been reached on the basis of both clearly erroneous findings of fact and misapplication of the law.⁶

Section 103

This court has in recent months issued a number of opinions addressing the analysis of obviousness under section 103⁷ and those opinions provide a comprehensive guide to analysis. We hold that the trial court's analysis of obviousness is inadequate under *Graham*⁸ to sustain a holding of invalidity un-

³ *Id.*

⁴ 35 U.S.C. §282 (1976).

⁵ *Stevenson v. U.S. Int'l Trade Comm'n*, 612 F.2d 546, 551, 304 USPQ 276, 281 (CCPA 1979); *Solder Removal Co. v. U.S. Int'l Trade Comm'n*, 582 F.2d 628, 632-33, 199 USPQ 129, 132-33 (CCPA 1978). See also *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 220 USPQ 193 (Fed.Cir. 1983); *Medtronic, Inc. v. Cardiac Pacemakers, Inc.*, 721 F.2d 1503, 220 USPQ 97 (Fed.Cir. 1983); *Strauch v. Inc. v. Kimber-Clark Corp.*, 713 F.2d 760, 773-74, 218 USPQ 781, 790 (Fed.Cir. 1983).

⁶ Cf. *Medtronic*, 721 F.2d at 1566, 220 USPQ at 99 (errors in decisional approach considered harmless).

⁷ In re *Seruker*, 702 F.2d 989, 217 USPQ 1 (Fed.Cir. 1983); *Orthopedic Equip. Co. v. United States*, 702 F.2d 1005, 217 USPQ 193 (Fed.Cir. 1983); *Orthopedic Equip. Co. v. All Orthopedic Appliances, Inc.*, 707 F.2d 1376, 217 USPQ 1281 (Fed.Cir. 1983); *Chore-Time Equip. Inc. v. Cumberland Corp.*, 713 F.2d 774, 218 USPQ 673 (Fed.Cir. 1983); *Card Sinead, A.G. v. Norron Corp.*, 713 F.2d 782, 218 USPQ 698 (Fed.Cir. 1983); *Environmental Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693, 218 USPQ 865 (Fed.Cir. 1983); *Strauch v. Inc. v. Kimber-Clark Corp.*, 713 F.2d 760, 773-74, 218 USPQ 781, 790 (Fed.Cir. 1983).

⁸ *Graham*, 383 U.S. at 17-18, 148 USPQ at 467, provides, in pertinent part:

*** [Section] 103 *** lends itself to several basic factual inquiries. Under §103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surround-

der section 103. However, the trial court's opinion contains sufficient findings of fact, supported in the record, to enable us to review the conclusion below that the Sonnenberg patent is invalid.

Scope and Content of the Prior Art

In determining the scope and content of the prior art, the trial court found that override switches generally were well known in the art. It also found that ACS's COMPU-TEL system was within the prior art under section 102(g). The district court did not in its opinion rely on any other prior art reference in determining whether the claimed invention would have been obvious under section 103.

Five U.S. patents⁹ are cited in the Sonnenberg patent as prior art. Further, the parties refer to the "Western New York Hospital" rental television system as prior art. While the trial judge made no mention in his opinion of these additional references, on the basis of the record before us, they each constitute prior art relative to the Sonnenberg patent. We hold that the trial court's limited assessment of the prior art was clearly erroneous in that the court below failed to find that these additional references are within the scope and content of the prior art. These errors, however, have not been shown to have influenced the trial court's judgment in this case and, accordingly, we consider them harmless.

Differences

With respect to the differences between the claimed subject matter and the prior art, the district court gave claim 1 of the Sonnenberg patent an extremely broad construction. It adopted the opinion of Wells' expert that the COMPU-TEL system contains every feature of claim 1. Hence, the court below found no significant differences between the claimed subject matter and the prior art. We hold that finding to be clearly erroneous. In addition, that finding reflects an erroneous construction of the claims.

The trial court in its discussion of obviousness, rather than ascertaining the differences between the claimed subject matter and the prior art, focused on the differences between

ing the origin of the subject matter sought to be patented. As indicia of obviousness or nonobviousness, these inquiries may have relevancy.

⁹ *Norris*, U.S. patent No. 2,356,474; *Townsend*, U.S. patent No. 3,188,384; *Sargent*, U.S. patent No. 3,335,421; *Daniel*, U.S. patent No. 3,631,444; and *Kosco*, U.S. patent No. 3,886,302.

the Wells and the ACS systems. In so doing, it adopted Wells' expert's explanation of the differences between claim 1 and the Wells system — differences relating to literal infringement, not validity. We conclude that the trial court erred in adopting Wells' expert's interpretation of claim 1.

Differences between the prior art and the claimed invention are apparent from the record. First, while override switches are used in a wide variety of applications, the examples of override switches cited by the district court are not relevant to the claimed subject matter as a whole — television rental systems. The district court made no attempt in its opinion to identify the differences between the override switching examples that it cited and the claimed subject matter.

Second, the record discloses that COMPU-TEL is a fully automated television rental system whereas the claimed invention involves human monitoring and control. While COMPU-TEL and the claimed invention both exhibit certain switching elements, the functions of the switching elements in the two systems are different. The fully automated operation of the COMPU-TEL system does not involve overriding a locked key switch. The patent switch in the COMPU-TEL system functions to actuate the television as well as to initiate billing. The override switching means claimed in the Sonnenberg patent, on the other hand, functions to provide an alternative current path to the locked key switch and to actuate the indicator light.

Third, the prior art of record that the court did not discuss also differs significantly from the claimed subject matter. The five patent references cited in the Sonnenberg patent involve a variety of lock, metering, and control systems. None of them, however, employs an override switching mechanism to overcome a key operated actuating switch. The Western New York Hospital system involves a three position key switch. Yet, that system differs from the claimed subject matter in that it too does not employ override switching means.

Hence, we hold the trial court's assessment, that there are no differences between the claimed subject matter and the prior art, was clearly erroneous.

Level of Ordinary Skill and Secondary Considerations.

Additionally, the court below made no express finding with respect to the level of ordinary skill in the art. The trial court's analysis, however, clearly indicates that the level of skill was considered to be quite low. We interpret the court's findings as fixing the

level of ordinary skill in the art as that of a layman. That finding has not been shown to be clearly erroneous. The court made no findings with respect to secondary considerations.

Claim Construction.

As noted above, the trial court's opinion reflects an extremely broad construction of the claims. Contrary to the district court's construction of the claims, the Sonnenberg patent does not claim "all systems of enabling a hospital patient to view television normally under his own power without the aid of an attendant." (Emphasis in original.) The court ignored express claim limitations governing the function of the switching means.

[2,3] Claims are to be read and construed in light of the specification and the prosecution history of the patent.¹⁰ Further, claims should be so construed, if possible, as to sustain their validity.¹¹ Applying these principles, the claims of the Sonnenberg patent should be given a far more limited construction than that given by the district court in holding the claims invalid. The claims are limited to a system in which override switching means function to override a key switch when in its "off" position, enabling the television to operate normally. The Sonnenberg patent does not claim "all" hospital rental systems capable of operation without an attendant. Claim construction is a question of law.¹² We hold that the trial court's construction of the claims is incorrect as a matter of law.

Obviousness.

Turning now to the determination of obviousness under section 103, we conclude that none of the references, either alone or in combination, would have disclosed or suggested

¹⁰ *Fromson v. Advance Offset Plate, Inc.*, 720 F.2d 1565, 1570-71, 219 USPQ 1137, 1140-41 (Fed. Cir. 1983); *Autogiro Co. v. United States*, 384 F.2d 391, 397-99, 155 USPQ 697, 702-04 (Ct. Cl. 1967).

¹¹ *Carman Indus., Inc. v. Wahl*, 724 F.2d 932, 937 n.5, 220 USPQ 481, 485 n.5 (Fed. Cir. 1983); *Klein v. Russell*, 86 U.S. 433, 466 (1874); *Turrill v. Michigan S. & N.E. R.R.*, 68 U.S. 491, 510 (1864).

¹² *Autogiro*, 384 F.2d at 397-99, 155 USPQ at 702-04; *LaSalle v. Carlson's Laydown Serv., Inc.*, 680 F.2d 432, 216 USPQ 276 (5th Cir. 1982); *Studiengesellschaft Kohle mbH v. Eastman Kodak Co.*, 616 F.2d 1315, 206 USPQ 577 (5th Cir.), cert. denied, 449 U.S. 1014, 208 USPQ 88 (1980).

ed to one of ordinary skill in the art the use of override switching means in a television rental system. The trial court's heavy reliance on the widespread use of override switches appears to be no more than hindsight reconstruction of the claimed invention. The court below identified no source, other than the Sonnenberg patent itself, for the suggestion to use override switching means in a television rental system.

[4] Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention. Absent some teaching or suggestion supporting the combination. Under section 103, teachings of references can be combined only if there is some suggestion or incentive to do so.¹³ The prior art of record fails to provide any such suggestion or incentive. Accordingly, we hold that the court below erred as a matter of law in concluding that the claimed invention would have been obvious to one of ordinary skill in the art under section 103.

Infringement

The trial court found that the Wells system does not infringe the claimed invention, either literally or under the doctrine of equivalents. Once again adopting the testimony of Wells' expert, the court below found that "the Wells system does not contain the element of overriding a locked switch." The district court also found differences between the ACS system and the Wells device with respect to the mechanism and circuitry of the actuating switch as well as with respect to the indicator light.

[5] These latter findings, however, will not support a finding of no infringement. The claims of the Sonnenberg patent are not limited to a specific switching mechanism or to a specific indicator light circuitry. The district court appears to have compared the Wells

system with ACS's commercial product, rather than with the claims of the Sonnenberg patent. Infringement is determined on the basis of the claims, not on the basis of a comparison with the patentee's commercial embodiment of the claimed invention.

[6] The district court's failure to supply more comprehensive findings of fact compounds the difficulty of appellate review, particularly in view of the complexity of the technical subject matter of this appeal. Findings of fact are to be construed liberally in support of a judgment. Continued in the trial court's limited findings, we are forced to draw from the facts found those inferences that are necessary to support the ultimate finding that the Sonnenberg patent is not infringed by Wells.¹⁴

In this endeavor we are not ourselves finding those facts which the trial court failed to set out for us. As an appellate court, we lack the power to perform that exercise. Where the trial court fails to make findings, the judgment will normally be vacated and the action remanded for appropriate findings to be made.¹⁵ Where a full understanding may be had without the aid of separate findings, however, we recognize a narrow exception to that general rule.¹⁶

The ultimate finding of fact in a case, whether initially by the trial court, or as affirmed on appeal, rests on the same underpinnings, i.e., the necessary subsidiary facts, supported by evidence of record, that lead to that ultimate finding. Where the district court has not misapplied the controlling legal standards in its evaluation of the evidence, its ultimate finding as well as the subsidiary findings upon which the ultimate finding necessarily depends, is subject to review on appeal under the clearly erroneous standard of Fed. R. Civ. P. 52(a).¹⁷ We examine the record in order to review the trial court's judgment, and the findings it made or necessarily had to have made to support that judgment and, thus, to conclude the controversy at this stage without unnecessary further expenditure of judicial resources, if possible.

The Sonnenberg Claims.

The Sonnenberg patent claims a rental television system having key operated actu-

¹³ 35 A. J. MOORE, J. LUCAS, MOORE'S FEDERAL PRACTICE §52.06(1) (2d ed. 1984); ¹⁴ Pullman-Standard v. Swint, 456 U.S. 273, 292 n.22 (1982); 35 A. MOORE'S FEDERAL PRACTICE §52.06(2).

¹⁵ See 35 A. MOORE'S FEDERAL PRACTICE §52.06(2) n.4 and cases cited therein.

¹⁶ Cf. Pullman-Standard, 456 U.S. 273.

¹⁷ *Orthopedic Equip. Co.*, 702 F.2d at 1012, 217 USPQ at 199, of *In re Samour*, 571 F.2d 559, 363, 197 USPQ 1, 4 (CCPA 1978) (noting the rule in the §103 context and declining to extend that rule to §102(b) rejections); *Corometrics Medical Sys., Inc. v. Berkeley Bio-Engineering, Inc.*, 193 USPQ 407, 475 (N.D. Cal. 1977).

¹⁸ *In re Rinehart*, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976); *In re Regel*, 326 F.2d 1399, 188 USPQ 136 (CCPA 1975); *In re Avery*, 518 F.2d 1228, 186 USPQ 161 (CCPA 1975); *In re Imperio*, 486 F.2d 385, 179 USPQ 730 (CCPA 1975); *In re Andre*, 341 F.2d 304, 144 USPQ 497 (CCPA 1965).

ing means capable of being overridden by an override switching means. An indicating means signals that the override switching means has been actuated. Once overridden, the switches and the indicator light remain in their overridden positions until the key operated switch is switched on, resetting the override switching and indicating means.

The Accused Infringing Device.

The Wells device also contains each of the three physical elements of claims 1 of the Sonnenberg patent: (1) a key operated actuating switch; (2) a remote control actuating switch; and (3) an indicator light. The district court, however, found that the Wells device does not contain the claimed limitation of overriding a locked switch — a difference in function.

The Wells device is a modified version of a standard hospital/hotel/motel television receiver. The keylock in the Wells system actuates 5 switches: SIXA, SIXB, SIXC, SIC, and SID [Fig. 1].

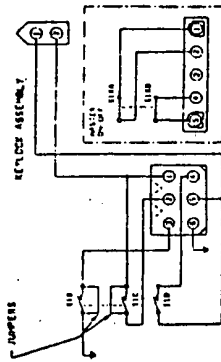


Fig. 1
Wells Device
Keylock Assembly As Manufactured

In the Wells device, the jumper wires, provided by the manufacturer on switches SIXA and SIXC, are not removed. [Fig. 2.]

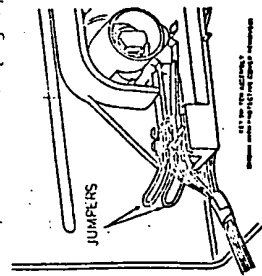


Fig. 2
Wells Device
Rear of Key Switch Showing Jumpers

Switches SIXB and SIXC are shorted out by those jumper wires, rendering those switches electrically inoperable.

Additionally, switch SID [Fig. 1] is "replaced" by relay RL-2 [Fig. 3] of the Wells remote control circuit.

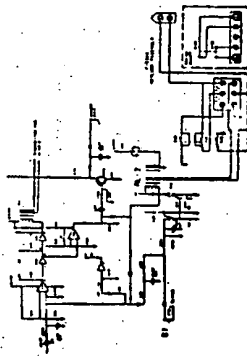


Fig. 3
Wells Device Control
and Key Switch Assembly

Relay RL-2 is connected in parallel with switch SID and one of the leads to switch SID is cut between switch SID and the connection of the lead to relay RL-2 [Fig. 3]. Thus, the circuit through switch SID is broken, rendering that switch electrically inoperable.

Unlike switch SID which it replaces, relay RL-2 is not controlled by the key switch. Rather, switch S1 [Fig. 3], located on the remote control unit, operates relay RL-2 in the Wells device. When S1 is not depressed, relay RL-2 remains normally closed. When switch S1 is depressed, the coil in relay RL-2 is energized causing relay RL-2 to open. Similarly, switch SID, which relay RL-2 replaces, was normally closed when the television was not rented and was opened by turning the key switch to rent the television.

Switches SIXB, SIXC, and SID, therefore, are disabled in the Wells device. The key switch operates only two switches — SIXA and SIXB [Fig. 1] — which control the delivery of power to the television receiver. When these switches are closed [positions 2

and 3] [Table 1], power is delivered to the tuner; when these switches are open [position 1] [Table 1], the circuit is broken and no power reaches the tuner.

KEY SWITCH - 2 POSITIONS									
AS MANUFACTURED									
SWITCH	POSITION 1	POSITION 2	POSITION 3	POSITION 4	POSITION 5	POSITION 6	POSITION 7	POSITION 8	POSITION 9
1	ON	ON	ON	ON	ON	ON	ON	ON	ON
2	ON	ON	ON	ON	ON	ON	ON	ON	ON
3	ON	ON	ON	ON	ON	ON	ON	ON	ON
4	ON	ON	ON	ON	ON	ON	ON	ON	ON
5	ON	ON	ON	ON	ON	ON	ON	ON	ON
6	ON	ON	ON	ON	ON	ON	ON	ON	ON
7	ON	ON	ON	ON	ON	ON	ON	ON	ON
8	ON	ON	ON	ON	ON	ON	ON	ON	ON
9	ON	ON	ON	ON	ON	ON	ON	ON	ON

Table 1

As manufactured, when the key switch of a standard receiver is in position 2 [Table 1], switch SID is open and the television operates normally. Position 2 functions as an "on" setting in the standard receiver. In the Wells device, however, switch SID [Table 1] has been disconnected and it has been replaced by relay RL-2. Relay RL-2 cannot be opened by manipulation of the key switch, as was switch SID. Thus, the receiver cannot be actuated merely by turning the key switch to position 2 in the Wells device.¹⁰ Switch S1 opens relay RL-2. The Wells receiver can be made fully operable only by depressing switch S1 [Fig. 3] while master on-off switches SIXA and SIXB are closed — position 2 or 3 [Table 1].

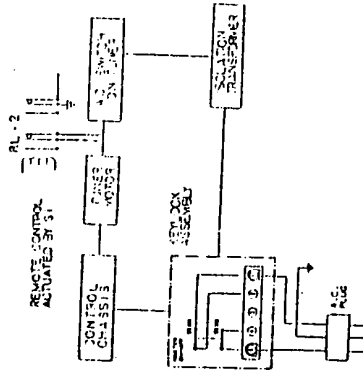
When the key switch is in position 1, power is interrupted and depressing actuating switch S1 will not actuate the receiver. The Wells key switch performs the same function in position 2 as in position 3. In both of these positions, while power is supplied to the tuner, the actuating switch S1 must be depressed in order to actuate the television. Thus, switch S1 does not override the key switch of

¹⁰ It appears that had RL-2 and SID been wired in series, instead of in parallel with SID disabled, the Wells device would exhibit the claimed "on" function.

In summary, the Wells device exhibits three modes of operation: (1) off — locked out (switches SIXA and SIXB open); (2) rentable — key position 2 or 3 and S1 not actuated (switches SIXA and SIXB closed and switch S1 open); and (3) rented — key position 2 or 3 and S1 actuated (switches SIXA and SIXB closed and switch S1 closed). Normal operation of the Wells device can be achieved only by depressing S1 while the power is switched on (key switch position 2 or 3). The invention claimed in the Sonnenberg patent, on the other hand, also exhibits three modes of operation: (1) "off" — rentable (override switch not actuated); (2) "on" — key operation (key switch actuated); and (3) "on" — override switch (key switch turned on and override switch not actuated). On the basis of our examination of the record we infer that the district court neces-

¹¹ Our assessment of the operation of the Wells device is based on the trial court's findings and on the documentary and testimonial evidence of record. It appears that only switches SIXA and SIXB are controlled by the key switch. Thus, our analysis supports the trial judge's implication that there is no functional difference between positions 2 and 3 of the key switch. The above analysis assumes that the key switch does not operate some third circuit that is actuated in either position 2 or position 3, but not both. We are aware of no evidence that such a third circuit fulfills the role of the key switch and is in turn overridden by switch S1.

Fig. 4
Wells Device
A.C. Switching



sarily found the following relative to the Wells device: (1) switches S1B, S1C, and S1D are disabled; (2) the key switch controls only switches S1XA and S1XB — the master on-off switch; and (3) the receiver can be actuated only by depressing S1 while the key switch is in either position 2 or 3 (so that switches S1XA and S1XB are closed).

Literal Infringement

These implied findings lead inexorably to the district court's express finding that the Wells device lacks the claimed limitation of "overriding a locked key switch. Further, these findings indicate that the Wells device does not exhibit the claimed "on" key switch position.

Both the "on" and "off" positions recited in claim 1 correspond to the "on" positions [positions 2 and 3] of the key switch in the Wells device. The Wells device cannot be operated normally through the key switch alone, as is required by claim 1. Rather, switch S1 must be depressed in conjunction with power being supplied to the receiver through the key switch. Hence, on the basis of the record before us, we conclude that the district court's finding, that Wells does not literally infringe the claims of the Sonnenberg patent, is not clearly erroneous.

Doctrine of Equivalents

While the district court purported to apply the standard articulated in *Graver Tank & Manufacturing Co. v. Linde Air Products Co.*,²¹ it entered no findings on the issue of equivalence: whether the Wells device performs substantially the same function as the claimed invention in substantially the same way to obtain substantially the same result.²² Yet, the court clearly implied that Wells does not infringe the Sonnenberg patent under the doctrine of equivalents and entered judgment to that effect.

We infer that the district court necessarily found that the Wells device, lacking the claimed function of overriding a locked key switch, does not function in substantially the same way as the claimed invention. That inference is supported by the record. Accordingly, we conclude that the district court's finding, that the Wells device does not in-

fringe the Sonnenberg patent under the doctrine of equivalents, is not clearly erroneous.

Hence, we affirm in part the judgment of the district court insofar as it relates to the finding that the Wells device does not infringe the claims of the Sonnenberg patent, either literally or under the doctrine of equivalents.

Attorney Fees

[7] The trial judge found that this is not an exceptional case and denied Wells' request for attorney fees. In order to prevail on its cross-appeal, Wells must establish that the trial judge abused his discretion in this regard and not merely, as Wells' attorneys contend, that the trial judge committed clear error. Wells has not demonstrated the requisite abuse of discretion, although it attempts to do so by demonstrating alleged fraudulent conduct by ACS before the Patent and Trademark Office. Fraud has not been shown. Nor have other facts been established that would demonstrate that the trial judge abused his discretion in finding that this case is not exceptional. Thus, we affirm the district court's denial of Wells' motion for attorney fees.

Conclusion

In summary, we hold that the district court committed both clear errors of fact and errors of law with respect to its resolution of the validity issue. The district court's conclusion that the Sonnenberg patent is invalid under section 103 is incorrect as a matter of law. We conclude that the trial court's finding, that Wells does not infringe the claims of the Sonnenberg patent, either literally or under the doctrine of equivalents, is not clearly erroneous. Additionally, we hold that the trial judge did not abuse his discretion in denying Wells' motion for attorney fees.

Affirmed-in-part. reversed-in-part.

²¹ *Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605, 607-09, 85 USPQ 328, 330-331 (1950).

²² *Id.* at 608, 85 USPQ at 330; *Sanitary Refrigerator Co. v. Winters*, 280 U.S. 30, 42, 3 USPQ 40, 44 (1929).

Court of Appeals, Federal Circuit
Roche Products, Inc. v. Bolar Pharmaceutical Co., Inc.

No. 84-360

Decided Apr. 23, 1984

PATENTS

1. Infringement — In general (§39.01)

35 USC 271(a) incorporates disjunctive language of statutory patent grant which gives patentee right to exclude others from making, using, or selling patented invention; performance of only one of three enumerated activities is patent infringement; in particular, use of patented invention, without either manufacture or sale, is actionable; thus, patentee does not need to have any evidence of damage or lost sales to bring infringement action; Section 271(a) prohibits, on its face, any and all uses of patented invention, because Congress never defined use, its meaning has become matter of judicial interpretation.

2. Court of Appeals for the Federal Circuit — In general (§26.51)

Precedents of Court of Claims bind CAFC.

3. Infringement — In general (§39.01)

Accused infringer's intended use of patented drug for federally mandated premarketing tests does not fall within "traditional limits" of experimental use exception as established in *Ordinance Engineering Corp. v. U.S.*, 32 USPQ 842, *Chesterfield v. U.S.*, 116 USPQ 445, *Douglas v. U.S.*, 181 USPQ 170, and *Pitcairn v. U.S.*, 192 USPQ 612; experimental use exception is truly narrow; argument that it deserves broad construction is not justified.

4. Infringement — In general (§39.01)

Pitcairn v. U.S., 192 USPQ 612, which sets forth law that tests, demonstrations, and experiments that are in keeping with legitimate business of alleged infringer are infringements for which experimental use is not defense, is most persuasive of Court of Claims cases concerning experimental use defense.

5. Infringement — In general (§39.01)

Unlicensed experiments conducted with view to adaptation of patented invention to experimenter's business is violation of rights of patentee to exclude others from using his patented invention; it is misnomer to call accused infringer's use of patented drug for federally mandated premarketing tests de minimus; CAFC cannot construe experimen-

tal use rule so broadly as to allow violation of patent laws in guise of "scientific inquiry," when that inquiry has definite, cognizable, and not insubstantial commercial purposes.

6. Patent grant — In general (§50.01)

CAFC must presume that Congress was aware that FDCA would affect earning potential of drug patent, and chose to permit it.

7. Court of Appeals for the Federal Circuit — Issues determined (§26.53)

Court of Appeals for the Federal Circuit — Jurisdiction (§26.53)

CAFC is not proper forum in which to debate proposed bills regarding interaction of patent laws and drug laws, no matter how persuasive policy arguments are for or against these bills.

8. Court of Appeals for the Federal Circuit — Issues determined (§26.53)

Injunction — In general (§40.1)

Patent owner is entitled to remedy, since CAFC holds that there is infringement; CAFC is not in position, however, to decide form of that remedy.

9. Injunction — In general (§40.1)

Case is not moot, because although patent expired and thus initially requested order is no longer necessary, other remedies can be fashioned to give patent owner relief against infringement, such as order to confiscate and destroy data infringer generated during its infringing activity.

10. Court of Appeals for the Federal Circuit — Issues determined (§26.53)

Injunction — In general (§40.1)

35 USC 283 provides basis for injunctive relief; Section 283 makes issuance of injunction discretionary; court may grant relief in accordance with principles of equity; trial court has considerable discretion in determining whether facts of situation require it to issue injunction; scope of relief is not for CAFC to decide at first instance.

11. Injunction — In general (§40.1)

Jurisdiction of courts — Patent infringement (§43.45)

District judge, before getting into issue of equitable relief, must determine if he can deal with case by adequate money damages; if he can, predicate for equitable relief of harsh, or even mild, character is gone; it is not case that

though claim 1 may have a cabinet limitation, not all components of the tissue processor must be within the cabinet. Indeed, the specification states that "the controls could be mounted in a separate cabinet." *Id.* col. 10, lines 34-35.

The limitations and functions of the invention in the claims, not the elements or functions of the accused device, establish the reference point for the doctrine of equivalents. *Insta-Foam*, 906 F.2d at 702. Infringement under the doctrine does not vanish merely because the accused device performs functions in addition to those performed by the claimed device. *Id.* Regardless of separation into modules, Shandon's system is still a "completely automatic system for allowing light microscopy tissue to be processed under a completely automatic sequence in an entirely closed system and without requiring substantial movement of the specimens." See *Miles I*, slip op. at 3-4. Thus, the HYPERCENTERS achieved substantially the same result as the '073 patent.

To allow Shandon to escape infringement simply because it used separate cabinets, as opposed to a single cabinet, is the exact type of injustice the doctrine of equivalents prevents. See *Lairam Corp.*, 863 F.2d at 856-57. This court discerns no clear error in the district court's finding of infringement under the doctrine of equivalents.

The '460 Patent

The district court held claim 1 of the '460 patent invalid for obviousness under 35 U.S.C. § 103 (1988). *Miles I*, slip op. at 16-17. The district court later held the dependent claims of the '460 patent (claims 2, 4-7) invalid by virtue of claim 1's invalidity. *Miles II*, slip op. at 2.

35 U.S.C. § 103 — Obviousness

The ultimate legal conclusion of obviousness is a question of law. *Specialty Composites v. Cabot Corp.*, 845 F.2d 981, 989, 6 USPQ2d 1601, 1606 (Fed. Cir. 1988). The analysis of obviousness, however, rests on several factual inquiries: (1) the scope and content of the prior art; (2) the differences between the prior art and the claims; (3) the level of ordinary skill in the art at the time of invention; and (4) objective evidence of non-obviousness. *Id.* (citing *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1960)). This court reviews these factual underpinnings for the legal conclusion of obviousness under the "clearly erroneous" standard. *Specialty Composites*, 845

F.2d at 989. The facts stated herein are based on district court findings not found to be clearly erroneous or otherwise not in dispute.

The prior art in this instance included U.S. Patent No. 3,526,203 (the '203 patent), U.S. Patent No. 3,227,130 (the Weiskopf patent), and the Lipshaw Manufacturing Corporation's "Fluid X Changer." The '203 patent covers an electron microscopy tissue processor. Electron microscopy differs from light microscopy in that the former requires only very small tissue specimens. With small tissue specimens, electron microscopy does not need to reuse processing reagents. Nonetheless, the specification of the '203 patent provides: "it will be apparent that the processor of the invention may be used for processing the larger sized tissue particles which are intended for light microscopy examination." *Miles I*, slip op. at 10 (quoting U.S. Patent No. 3,526,203, col. 8, lines 5-8). The claims of the '203 patent disclose the vacuum component of the '460 patent. Furthermore, the '203 patent suggests a solution to the problem resolved by claim 1 of the '460 patent, namely, a means of reusing a solution by returning unused quantities to the storage container with pressure.

The specification of the '203 patent provides:

In this regard it should be noted that the practice in electron microscopy work is not to reuse the solutions and in the system of the invention only fresh solution is transferred through the lines and valves connecting the containers with the processing chamber. If the particular solutions are required to be pumped back to the containers after use appropriate pumping and switching controls would have to be provided.

U.S. Patent NO. 3,526,203, col. 8, lines 12-19. Although electron microscopy does not reuse solutions, the '203 patent suggests to a skilled artisan the reuse of solutions by pumping them back to their storage containers.

The "Fluid X Changer" (a device used for sustaining slides bearing tissue specimens) also suggests transfer of solutions by pressure. Moreover, the Weiskopf patent discloses a tissue processor which transfers solutions by pressure controls. Thus, the prior art of histological equipment taught the flow of liquids in tissue processing apparatuses from one location to another with vacuum pressure.

The differences between the prior art and claim 1 of the '460 patent were minor and achievable by simple modification. Moreover, the prior art references collectively sug-

gest the engineering necessary to achieve these modifications. Simply put, the '203 patent discloses a tissue processor which does not reuse fluids but instead discharges them into a waste tank after processing. By running a line from the processing chamber back to the fluid storage containers (rather than to the waste tank), the '203 patent would anticipate the '460 patent.

[6] The level of ordinary skill in the art suggests as well a thorough knowledge of the principles of fluid transfer using pressure—vacuum pumps, valves, and conduits at the time of the '460 patent's development. Finally, Miles did not show objective indicia of non-obviousness. Such evidence, if present, would weigh in favor of non-obviousness, although the lack of such evidence does not weigh in favor of obviousness. See, e.g., *Custom Accessories, Inc. v. Jeffrey-Allen Industries, Inc.*, 807 F.2d 955, 1 USPQ2d 1196, 1199 (Fed. Cir. 1986). Miles presented no evidence, for instance, that its device represented a substantial share of any definable market. Miles also did not offer evidence on factors such as long-felt need or teaching away in the prior art.

[7] In sum, the district court concluded:

On the basis of the *Graham* test, therefore, we conclude that claim 1 of the '460 patent is invalid under 35 U.S.C. § 103 because the subject matter of claim 1 as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains.

Miles I, slip op. at 16-17. This court finds no error (and certainly no clear error) with the district court's obviousness findings and conclusion. Therefore this court affirms the district court's determination of invalidity of claim 1 of the '460 patent.

In its later opinion, the district court clarified its earlier decision and also held dependent claims (2 and 4-7) of the '460 patent invalid. *Miles II*, slip op. at 1-2. Section 282 requires an independent analysis of the validity of each claim. 35 U.S.C. § 282 (1988); *Ortho Pharmaceutical Corp. v. Smith*, 959 F.2d 936, 942, 22 USPQ2d 1119, 1124 (Fed. Cir. 1992). A party challenging the validity of a claim, absent a pretrial agreement or stipulation, must submit evidence supporting a conclusion of invalidity for each contested claim. *Id.* Where the parties stipulate to "representative" claims, however, a validity resolution for the representative claims applies to the other claims as well. See *Panduit Corp. v. Dennison Mfg. Co.*, 836 F.2d 1329, 1330-31, 5 USPQ2d 1266, 1267-68 (Fed. Cir. 1987).

In an April 1988 pretrial "Stipulation of Agreed Fact, Law of the Case and Questions of Law," the parties agreed:

The '460 patent contains seven claims. Claim 1 is the only independent claim. Claims 2 through 7 depend directly or indirectly from claim 1. Consequently, claim 1 is the broadest claim and can be considered to be representative of the claims in this patent.

Miles II, slip op. at 2 n.1. This stipulation of the parties made claim 1 a representative for the other claims in the patent. Thus, the parties, their counsel, and the trial court understood that the result the court reached for claim 1 would bind all other claims. Therefore, this court affirms the district court's invalidation of the dependent claims of the '460 patent.

The district court also determined that the accused device infringed the '460 patent. Because it affirms the district court's invalidity findings, this court need not reach the district court's infringement determination. See *Dana Corp. v. IPC Ltd. Partnership*, 860 F.2d 415, 417, 8 USPQ2d 1692, 1694 (Fed. Cir. 1988), cert. denied, 490 U.S. 1067 (1989).

CONCLUSION

For the above stated reasons, this court affirms the district court's findings of infringement of the '073 patent and the upholding of its validity. This court also affirms the district court's holding that claims 1, 2, and 4-7 of the '460 patent are invalid due to obviousness.

COSTS

Each party shall bear its own costs for this appeal.

AFFIRMED

Court of Appeals, Federal Circuit

McElmurry v. Arkansas Power & Light Co.

No. 92-1246

Decided June 16, 1993

JUDICIAL PRACTICE AND PROCEDURE

1. Procedure — Summary judgment — Patents (§410.3303)

Procedure — Judicial review — Standard of review — Patents (§410.4607.09)

Appeals court, in reviewing federal district court's grant of summary judgment in

favor of patent infringement defendant, must make independent determination as to whether standards of Fed.R.Civ.P. 56(c) have been met, and reversal is required if district court improperly determined any genuine issue of material fact or erred in holding that defendant was entitled to judgment as matter of law.

PATENTS

2. Infringement — Defenses — In general (§120.1101)

Title — License (§150.05)

Proper methodology for determining whether employer has acquired "shop right" in patented invention is to consider, on case by case basis, totality of circumstances, such as circumstances surrounding development of patented invention and inventor's activities, and determine whether facts demand, under principles of equity and fairness, finding that "shop right" exists: federal district court did not err in finding that defendant had acquired "shop right" in patented level detector which entitled defendant to duplicate that level detector for use in its business, in view of evidence demonstrating that patentee had developed invention while working for defendant, that defendant installed level detector, with patentee's consent and participation, on 128 precipitator hoppers at its power station, that all costs and expenses associated with testing and implementation of those level detectors were paid by defendant, and that patentee never asserted that defendant was precluded from using level detector without his permission or was required to compensate him.

Particular patents — General and mechanical — Level detector
4,527,714, Bowman, pressure responsive hopper level detector system, summary judgment of non-infringement affirmed.

Appeal from the U.S. District Court for the Eastern District of Arkansas, Reasoner, J.
Action by Max C. McElmurry and White River Technologies Inc. against Arkansas Power & Light Co., Entergy Corp., and Middle South Utilities, for patent infringement. From federal district court's grant of defendants' motion for summary judgment, plaintiffs appeal. Affirmed.

David A. Hodges, Little Rock, Ark., for appellants.

Thomas F. Meeks, of Friday, Eldredge & Clark, Little Rock, for appellees.

Before Nies, chief judge, and Rich and Mayer, circuit judges.

Rich, J.

Max C. McElmurry and White River Technologies, Inc. (WRT) appeal the February 10, 1992 Judgment of the U.S. District Court for the Eastern District of Arkansas, Northern Division, granting a motion for summary judgment filed by Arkansas Power & Light Company (AP&L) and Entergy Corporation.¹ The district court held that there were no relevant or material factual disputes precluding a finding that AP&L holds "shop rights" to certain subject matter claimed in U.S. Patent No. 4,527,714, titled "Pressure Responsive Hopper Level Detector System" (Bowman patent), and thus, as a matter of law, AP&L had not infringed any claim of the Bowman patent. For the reasons set forth below, we affirm.

I. Standard of Review

Because WRT's complaint alleged patent infringement, the jurisdiction of the district court was based at least in part on 28 USC § 1338(a) (1988). Accordingly, we have jurisdiction over this appeal pursuant to 28 USC § 1295(a)(1) (1988).

[1] Under the Federal Rules of Civil Procedure, a motion for summary judgment is properly granted only where the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and the moving party is entitled to judgment as a matter of law.

Fed. R. Civ. P. 56(c). In reviewing the district court's grant of summary judgment, we must make an independent determination as to whether the standards of Rule 56(c) have been met. Reversal is required if the district court improperly determined any genuine issue of material fact or erred in holding that AP&L was entitled to judgment as a matter of law. *Intellicall, Inc. v. Phonometrics, Inc.*, 952 F.2d 1384, 1387, 21 USPQ2d 1383, 1386 (Fed. Cir. 1992).

¹ Unless the context indicates otherwise, "WRT" refers jointly to Mr. McElmurry and White River Technologies, Inc., and "AP&L" refers jointly to Arkansas Power & Light Company and Entergy Corporation.

II. Genuine Issues of Material Fact

In considering AP&L's motion for summary judgment, the district court was required to view the evidence in the light most favorable to WRT and to draw all reasonable factual inferences in WRT's favor. AP&L had the burden of demonstrating the absence of any genuine issue of material fact. However, since AP&L supported its motion with three affidavits, deposition testimony, and a Rule 29 Statement of Uncontested Facts based upon these affidavits and testimony, the burden shifted to WRT to come forward with evidence directed to specific facts showing that there was a genuine issue for trial. *Hodosh v. Block Drug Co.*, 786 F.2d 1136, 1141, 229 USPQ 182, 186 (Fed. Cir.), cert. denied, 485 U.S. 1007 (1988); Fed. R. Civ. P. 56(e).

WRT failed to come forward with such evidence, instead choosing to rely upon conclusory statements and denials in its pleadings.² Mere denials and conclusory statements, however, are not sufficient to establish a genuine issue of material fact. *Hodosh*, 786 F.2d at 1141, 229 USPQ at 186; Fed. R. Civ. P. 56(e). Therefore, we find no error in the district court's holding that there were no genuine issues of material fact necessitating trial or in the district court's acceptance of the facts presented by AP&L in its supporting evidence for purposes of analyzing the "shop rights" issue.

III. Shop Rights

A. Background

AP&L hired Harold L. Bowman, the patentee, as a consultant on October 24, 1980, to assist in the installation, maintenance and operation of electrostatic precipitators at AP&L's White Bluff Steam Electric Station (White Bluff) located near Redfield, Arkansas. An electronic precipitator is a device which removes granular ash particles (fly ash) from the gasses emitted by coal-fired boilers used to generate steam. As fly ash is removed, it is collected in hoppers referred to as precipitator hoppers. Prior to April of 1982, the precipitator hoppers at White Bluff employed a level detector system using

a nuclear power source (K-ray system) to detect the level of fly ash in the hoppers.

AP&L was not satisfied with the K-ray system. As a result, in the early part of 1982, Bowman discussed with a Mr. Richard L. Roberts, an AP&L employee, replacing the K-ray system with a new level detector, an initial design of which they drew on a napkin.³ In the proposed level detector, a vacuum gauge was connected to a pipe inserted and welded into the wall of a precipitator hopper. If the level of the fly ash collected in the hopper extended above the point where the pipe was inserted into the hopper, the vacuum gauge would no longer indicate that a vacuum existed, as it would if the level of the fly ash were below that point. Thus, by monitoring the vacuum gauge, one could determine whether the fly ash exceeded a certain level in the hopper.

AP&L considered the proposed level detector and, during a power outage in March of 1982, ordered its installation on one hopper at White Bluff for testing purposes. When it proved successful, AP&L ordered that the level detector be installed on a total of sixteen (16) precipitator hoppers at White Bluff. In each case, level detectors were installed both near the bottom and top of the hopper, thus allowing for the detection of the fly ash at two different levels in the hopper. When this system proved successful, AP&L ordered that the level detectors be installed on the remaining one hundred and twelve (112) precipitator hoppers at White Bluff. All costs associated with the installation and testing of the level detector on the one hundred and twenty eight (128) hoppers at White Bluff, including materials and working drawings, were paid by AP&L.

On October 24, 1982, Bowman moved from White Bluff to AP&L's Independence Steam Electric Station (ISES) located near Newark, Arkansas, to assist in the start-up, maintenance and operation of electronic precipitators at that facility. In November of 1982, Bowman formed White Rivers Technology, Inc. with McElmurry and a Mr. Johnny Mitchum, to market certain inventions on which Bowman held patents or was planning to seek patent protection. Bowman filed a patent application on the level detector on February 18, 1983, and the patent-in-

² The district court noted in note 2 of its opinion that although there was some question as to whether Bowman was the sole inventor of the level detector, the court would adopt WRT's claim that he was the sole inventor for purposes of deciding AP&L's motion for summary judgment.

³ For example, WRT denied several of AP&L's uncontested facts and admissions requests and declined to answer several of AP&L's interrogatories merely on the basis that WRT lacked knowledge as to the information at issue.

suit issued on July 9, 1985. At some point prior to its issuance, Bowman assigned his patent rights to WRT.

While at ISES, Bowman assisted another AP&L engineer, a Mr. Will Morgan, in installing the level detector on precipitator hoppers at that facility. AP&L requested bids for the project and ultimately contracted with WRT to install the level detector on sixty four (64) of the hoppers at that location. An outside contractor other than WRT installed the level detector on the remaining sixty four (64) hoppers. AP&L did contract with WRT, however, to install certain electronic components of the level detectors installed by the outside contractor. The level detectors had been installed and were in operation on all one hundred and twenty eight (128) precipitator hoppers¹ by the end of 1984, prior to the issuance of the Bowman patent. Bowman's contract with ISES ended, however, in October of 1983 before completion of the project. All costs associated with the installation and testing of the level detectors at ISES, including materials and working drawings, were paid by AP&L even though some of the work was contracted out.

In 1985, based upon the success of the level detector on the precipitator hoppers at White Bluff and ISES, another AP&L engineer, a Mr. John Harvey, implemented a plan to install the level detector on fourteen (14) hydroeyer hoppers² at ISES.³ Harvey informed Bowman of the plan to install the level detector on the hydroeyer hoppers, and Bowman indicated that he thought it was a good idea. Bowman also indicated that WRT would be interested in bidding on the project. AP&L ultimately awarded the contract, however, to another contractor be-

¹ As at White Bluff, the level detector was installed on each hopper both near the bottom and the top of the hopper. Unlike White Bluff, however, the gauges on the level detectors AT ISES were connected to a light signalling device and computer located in the precipitator control room, thus allowing for remote detection of the fly ash level in the hoppers.

² The function of a hydroeyer hopper is essentially the same as that of a precipitator hopper, i.e., to collect ash. They differ in that a precipitator hopper collects small particles of ash extracted by an electrostatic precipitator, whereas a hydroeyer hopper collects larger particles of ash in and around a device known as an economizer. They also are shaped differently and are located at different places in the plant.

³ On these hoppers, the level detector was installed near the middle of each hopper, and the detector was connected to a remote light signalling device.

cause WRT was not the low bidder. In soliciting bids on the hydroeyer project, AP&L provided the contractors with specifications prepared by AP&L showing the work to be performed. The installation of the level detectors on the hydroeyer hoppers at ISES was completed in 1985, and all costs associated with their installation were paid by AP&L.

B. District Court Litigation

On April 25, 1990, WRT brought suit against AP&L for patent infringement based on AP&L's solicitation of and contracting with a party other than WRT to install Bowman's patented level detector on the hydroeyer hoppers at ISES. The district court granted summary judgment in favor of AP&L on the basis that AP&L had acquired a "shop right" in the level detector claimed in the Bowman patent. AP&L argued and the court agreed that, as a matter of law, Bowman's development of the patented level detector at AP&L's facilities at AP&L's expense entitled AP&L, under the "shop rights" rule, to reproduce and use the level detector in its business.⁴ WRT then appealed to this court.

C. Analysis

A "shop right" is generally accepted as being a right that is created at common law,⁵ when the circumstances demand it,

¹ The court never analyzed the claims of the Bowman patent relative to the alleged infringing activity or relative to any "shop right" that AP&L possessed. Rather, the court stated that it would view the facts in the light most favorable to WRT and accept, for purposes of AP&L's summary judgment motion, that the alleged infringing devices were identical to those claimed in the Bowman patent and previously installed at AP&L's facilities.

² Although a creature of common law, most courts rely upon the leading Supreme Court decisions, *McClurg v. Kingsland*, 42 U.S. (1 How.) 202 (1843), *Gill v. United States*, 160 U.S. 426 (1896), and *United States v. Dubilier Condenser Corp.*, 289 U.S. 178 [17 USPQ 154] (1933), to analyze "shop rights" issues, even though these decisions were rendered prior to *Erie Railroad Co. v. Tompkins*, 304 U.S. 64 (1938). See *Womack v. Durham Bacon Co.*, 715 F.2d 962, 219 USPQ 1153 (3d Cir. 1983); *Mechanicals Corp. v. Telex Computer Prods., Inc.*, 709 F.2d 1287, 219 USPQ 20 (9th Cir. 1983); *Hobbs v. United States*, 376 F.2d 488, 153 USPQ 378 (5th Cir. 1967); *Wiles v. Union Wire Rope Corp.*, 134 F.Supp. 299, 107 USPQ 266 (W.D. Mo. 1955). *Appeal dismissed*, 257 F.2d 813 (8th Cir. 1958); *Thompson v. American Tobacco Co.*, 174 F.2d 773, 81 USPQ 323 (4th Cir. 1949); *Ingersoll-Rand Co. v. Cinatva*, 110 N.J. 609, 542 A.2d 879, 8 USPQ2d 1537 (N.J. 1988); *Cambridge Wire Cloth Co. v. Applegarth*, 142 USPQ 514

under principles of equity and fairness, entitling an employer to use without charge an invention patented by one or more of its employees without liability for infringement. See generally *D. Chisum, Patents*, § 22:02 [3] (1985 rev.); C.T. Dreschler, Annotation, *Application and Effect of "Shop Right Rule" or License Giving Employer Limited Rights in Employee's Inventions and Discoveries*, 61 A.L.R.2d 356 (1958); P. Rosenberg, *Patent Law Fundamentals*, § 11.04, 11-20 (1991). However, as recognized by several commentators, *supra*, the immense body of case law addressing the issue of "shop rights" suggests that not all courts agree as to the doctrinal basis for "shop rights," and, consequently, not all courts agree as to the particular set of circumstances necessary to create a "shop right."

For example, many courts characterize a "shop right" as being a type of implied license,⁶ and thus the focus is often on whether the employee engaged in any activities, e.g., developing the invention on the employer's time at the employer's expense, which demand a finding that he implicitly granted a license to his employer to use the invention. Other courts characterize a "shop right" as a form of equitable estoppel,⁷ and

(Md. Cir. Ct. 1964); *Aero Bolt & Screw Co. v. Luia*, 180 Cal. App. 2d 728, 53 Cal. Rptr. 53, 125 USPQ 545 (1960); *Cahill v. Regan*, 5 N.Y.2d 292, 157 N.E.2d 505, 184 N.Y.S.2d 348, 121 USPQ 58 (1959). Accordingly, the principles set out in this opinion govern "shop rights" analyses. See *McClurg v. Kingsland*, 42 U.S. (1 How.) 202; *Solomons v. United States*, 137 U.S. 342; *Mechanicals*, 709 F.2d 1287, 219 USPQ 20; *Hobbs*, 376 F.2d 488, 153 USPQ 378; *Wiles*, 134 F.Supp. 299, 107 USPQ 266; *Ingersoll-Rand*, 110 N.J. 609, 542 A.2d 879, 8 USPQ2d 1537. See also *W.C. Robinson, Law of Patents for Useful Inventions*, § 832 (1890); *L.H. Amdur, Patent Law and Practice*, § 12 (1935); *R.C. Witte and E.W. Guttig, Employee Inventions*, 71 JPTOS 470-71 (1989); *T.R. Savitsky, Compensation for Employee Inventions*, 73 JPTOS 647-48 (1991).

⁶ In *Gill*, 160 U.S. 426, an influential estoppel case, the Supreme Court stated in pertinent part at pages 436-37:

if the inventions of a patentee be made in the course of his employment, and he knowingly assents to the use of such inventions by his employer, he cannot claim compensation therefor, especially if his experiments have been conducted or his machines have been made at the expense of such employer.

The acquiescence of the [inventor] in this case in the use of his invention by the [employer] is fully shown by the fact that he was in its employ; that the adoption of his inventions by the [employer] was procured at his suggestion;

thus the focus is often on whether the employee's actions, e.g., consent or acquiescence to his employer's use of the invention, demand a finding that he is estopped from asserting a patent right against his employer. Neither characterization appears to be inherently better than the other, and the end result under either is often the same, given that the underlying analysis in each case is driven by principles of equity and fairness, and given that the courts often analyze a "shop right" as being a combination of the two even though they may characterize it in name as one or the other.⁸

It is thus not surprising that many courts adopt neither characterization specifically, instead choosing to characterize a "shop right" more broadly as simply being a common law "right" that inures to an employer when the circumstances demand it under principles of equity and fairness.⁹ These courts often look to both the circumstances surrounding the development of the invention and the facts regarding the employee's

that the pattern and working drawings were prepared at the cost of the [employer]; that the machines embodying his inventions were also built at the expense of the [employer]; that he never brought his inventions before any agent of the [employer] as the subject of purchase and sale; that he raised no objection to the use of his inventions by the [employer]; and that the [employer] never undertook to incur a legal or pecuniary obligation on the part of the [employer] for the use of the inventions or the right to manufacture thereunder.

See also *Dovel v. Sloss-Sheffield Steel & Iron Co.*, 139 F.2d 36, 60 USPQ 86 (5th Cir.), cert. denied, 322 U.S. 740 [61 USPQ 543] (1944); *Beecraft & Blackman, Inc. v. Roemer*, 268 F.345 (S.D.N.Y.), rev'd on other grounds, 280 F.543, 549 (2d Cir. 1922) (Judge Learned Hand: "The rule is entirely equitable: the books put in the form of an estoppel.")

"Some courts even characterize a 'shop right' as being a combination of an implied license and equitable estoppel. See *Kierulff v. Metropolitan Svededore Co.*, 315 F.2d 839, 137 USPQ 195 (9th Cir. 1963).

"See *Dubilier*, 389 U.S. 178 [17 USPQ 154]; *Franklyn v. Guilford Packing Co.*, 695 F.2d 1158, 217 USPQ 317 (9th Cir. 1983); *Consolidated Vultee Aircraft Corp. v. Maurice A. Gurbell, Inc.*, 204 F.2d 946, 98 USPQ 4 (9th Cir. 1953); *Thompson*, 174 F.2d 773, 81 USPQ 323; *Logus Mfg. Corp. v. Nelson*, 195 USPQ 366, 200 USPQ 570 (E.D.N.Y. 1977); *Papagian v. American Steel & Wire Co.*, 155 F. Supp. 111, 115 USPQ 333 (N.D. Ohio 1957); *Cambridge Wire*, 5 Cal. Rptr. 53, 125 USPQ 545; *Cahill v. Regan*, 5 N.Y.2d 292, 157 N.E.2d 505, 184 N.Y.S.2d 348, 121 USPQ 58.

activities respecting that invention, once developed, to determine whether it would be fair and equitable to allow an employee to preclude his employer from making use of that invention. This is essentially the analysis that most courts undertake regardless of how they characterize "shop rights."

[2] In view of the foregoing, we believe that the proper methodology for determining whether an employer has acquired a "shop right" in a patented invention is to look to the totality of the circumstances on a case by case basis and determine whether the facts of a particular case demand, under principles of equity and fairness, a finding that a "shop right" exists. In such an analysis, one should look to such factors as the circumstances surrounding the development of the patented invention and the inventor's activities respecting that invention, once developed, to determine whether equity and fairness demand that the employer be allowed to use that invention in his business. A factually driven analysis such as this ensures that the principles of equity and fairness underlying the "shop rights" rule are considered. Because this is exactly the type of analysis that the district court used to reach its decision, we see no error in the district court's analysis justifying reversal.

To reach its decision, the district court looked to the discussion of "shop rights" set forth in the often-cited *Dubilier* case, in which the Court said:

where a servant, during his hours of employment, working with his master's materials and appliances, conceives and perfects an invention for which he obtains a patent, he must accord his master a nonexclusive right to practice the invention. [citation omitted] This is an application of equitable principles. Since the servant uses his master's time, facilities and materials to attain a concrete result, the latter is in equity entitled to use that which embodies his own property and to duplicate it as often as he may find occasion to employ similar appliances in his business. *Dubilier*, 289 U.S. at 188-89. The district court also accepted a discussion of "shop rights" set forth in one of WRT's briefs filed in the district court action as correctly summarizing several factors that may be considered in analyzing a "shop rights" case.¹¹ At pages 9-10 of its opinion, the district court included the following excerpt from pages 6-

¹¹ The summary of the law set forth by WRT adequately depicts the types of factors that courts often look to in analyzing "shop rights" issues. See generally cases cited *supra* in notes 9-12.

8 of WRT's Memorandum Brief in Support of Response to Motion for Summary Judgment:

Because broad equitable principles are involved in determining whether shop rights in [an] invention arise, [t]he full nature of the parties' relationship must be examined to determine whether a shop right exists. . . . Rosenberg, *Patent Law Fundamentals*, § 11.04, 11-20 (1991). The following factors have been considered: the contractual nature of the relationship between employer and employee, whether the employee consented to the employer's use of the invention, and whether the employee induced, acquiesced in, or assisted the employer in the use of the invention. . . . [footnote omitted]

An employer will have shop rights in an invention in situations where the employer has financed an employee's invention by providing wages, materials, tools and a work place. Other factors creating shop rights include an employee's consent, acquiescence, inducement, or assistance to the employer in using the invention without demanding compensation or other notice of restriction. See Rosenberg, *Patent Law Fundamentals* § 11.04 (1991).

Applying *Dubilier* and the summary of the law set forth in WRT's own brief to the facts of this case, the district court properly found that AP&L had acquired a "shop right" in Bowman's patented level detector which entitled AP&L to duplicate the level detector for use in its business.

Bowman developed "the patented level detector while working at AP&L" and sug-

¹² The district court noted at pages 4-5 of its opinion that, although it was unclear as to whether Bowman had pondered the idea of the level detector prior to his employment with AP&L, there was no evidence "that Bowman had ever taken the idea beyond the concept stage before 1982 by producing working drawings, building a prototype of the level detector, testing it, or using it in a similar application at another facility." We agree with the district court's suggestion that whether Bowman conceived the invention prior to his employment with AP&L does not affect the ultimate conclusion in this particular case. See *Logan*, 195 USPQ 566, 200 USPQ 570 (shop right created where employee conceived invention prior to employment but then perfected and reduced to practice invention at employer's facilities, on employer's time, and with the use of employer's employees and materials).

¹³ WRT argues that Bowman's consultant contract with AP&L indicates that Bowman was an independent contractor and not an employee in the conventional sense. WRT asserts that the law is clear that Bowman must have been hired as an employee for a finding of "shop rights."

gested it to AP&L as an alternative to the K-ray system. AP&L installed the level detector on one hundred and twenty eight (128) precipitator hoppers at White Bluff with Bowman's consent and participation. Bowman also consented to, and participated at least in part in, the installation of the level detector on one hundred and twenty eight (128) precipitator hoppers at ISES. In addition, the level detectors on half of the hoppers at ISES were installed by a contractor other than WRT, with Bowman's and WRT's knowledge and consent. All costs and expenses associated with the testing and implementation of the level detector on the hoppers at White Bluff and ISES were paid by AP&L.

Furthermore, Bowman never asserted that AP&L was precluded from using the level detector without his permission or that AP&L was required to compensate him for its use. Indeed, the record suggests that Bowman believed quite the opposite. As recognized by the district court at page 12 of its opinion.

Bowman admitted in a deposition [footnote omitted] that he believed all along that AP&L would have shop rights. His patent attorney had informed him of that possibility and he subsequently shared the attorney's opinion with his partners in WRT. See Bowman deposition at 81-82.

WRT argues that Bowman's consent or acquiescence after he had assigned his rights in the Bowman application to WRT is irrelevant. Even if this were true, Bowman's actions at White Bluff prior to this assignment justify the district court's finding that a "shop right" was created. Nevertheless, WRT, of which Bowman was a part owner during the relevant time period, acquiesced both to AP&L's continued use of the level detector at White Bluff and ISES and to the installation of the level detector by outside contractors at ISES. This lends further support to the district court's decision.

WRT also argues that, even if AP&L had acquired a "shop right" to use the patented level detector, AP&L somehow exceeded the

scope of that right when it allegedly "carelessly and casually disseminated the design and specifications of the patented device to private contractors." WRT argues that, by putting information of this nature on the open market, AP&L rendered the patent "worthless" and robbed Bowman of the "fruit of his labor." We find these arguments unpersuasive for two reasons.

First, WRT has failed to explain how AP&L's mere dissemination of specifications of the patented level detector constituted patent infringement. Clearly, it did not. The owner of a patent right may exclude others from making, using or selling the subject matter of a claimed invention. 35 U.S.C. §§ 154 and 271. AP&L's dissemination of information obviously does not fall into any of these categories. Even so, it is also unclear how disseminating specifications of the level detector after it was patented rendered the Bowman patent "worthless." The owner of the Bowman patent still retained the right to exclude all others than AP&L from practicing the claimed invention.

Second, we find no error in the district court's holding that AP&L's "shop right" entitled it to duplicate the level detector and to continue to use it in its business. Such a conclusion clearly finds support in the law. *H.F. Walliser & Co. v. F.W. Maurer & Sons Co.*, 17 F.2d 122, 124 (E.D. Pa. 1927); see also *Dubilier*, 289 U.S. at 188-89; *Thompson*, 174 F.2d at 778, 81 USPQ at 327-28; *Pure Oil Co. v. Hyman*, 95 F.2d 22, 23, 36 USPQ 306, 310 (7th Cir. 1938) ("shop right is co-extensive with the business requirements of the employer"). Furthermore, AP&L's "shop right" was not limited to AP&L's use of level detectors that AP&L itself had manufactured and installed. Quite to the contrary, we find that AP&L's "shop right" entitled it to procure the level detector from outside contractors. *Schmidt v. Central Foundry Co.*, 318 F.466, 470 (D.N.J. 1914), *aff'd on other grounds*, 229 F.156 (3d Cir. 1916).

Finally, WRT makes several arguments addressing the laws pertaining to the assignment of patent rights. However, AP&L has never asserted that it has any ownership rights in the Bowman patent. Rather, AP&L has merely claimed "shop rights" as a defense to WRT's patent infringement arguments. Accordingly, WRT's assignment arguments are considered irrelevant and thus unpersuasive.

AFFIRMED

cluded, using this date, that a mere three-month delay in bringing suit was not unreasonable, and that prejudice also was absent because appellants had entered into the great majority of their commitments in connection with the movie by March 3. According to Allied and New Line, however, King knew everything he needed to know to assert his rights by October 1991, when a copy of the screenplay (with credits) was obtained. Appellants argue, therefore, that October 1991 is the proper time from which to consider the laches question, and note that many commitments were made, and much money expended, after that time.

The issue of laches is committed to the discretion of the district court, see *Dickey v. Alcoa Steamship Co.*, 641 F.2d 81, 82 (2d Cir. 1981) (citations omitted), and we see no abuse of that discretion here. King could not be certain about what the film would contain — the film credits lying at the heart of this dispute — until he actually viewed a copy of the film. Indeed, in the very same letter of October 21 in which he acknowledged having the screenplay, Kramer specifically complained that he had not yet seen the tentative film credits. Accordingly, October 1991 does not seem to us to be a useful date at which to draw a baseline. See *Gilliam*, 538 F.2d at 18, 25 (Monty Python group feared in early September that programs could be edited by television network, and first of programs so edited aired in early October; but no laches where the group did not actually see tape of the edited program until late November, objected to network promptly thereafter, and commenced suit after discussions failed); see also *Horgan*, 789 F.2d at 164.

[4] Even if the October 1991 date were to be used, we would not be willing to say that King unreasonably delayed in initiating this suit, in light of his conduct and the history of the parties prior to commencement of the suit. As mentioned previously, King objected to the possessory credit to Allied as soon as he learned of the film in October 1991. He attempted at that time to obtain the screenplay, tentative credits, and a copy of the movie. He continued to voice his objections to what seemed planned by appellants and attempted to become fully informed and resolve the matter. Even taking into account the March 3 letter to Holston, King did not encourage or acquiesce in the use of a possessory credit. Compare *Southside Fair Housing*, 928 F.2d at 1355 (14 month delay in bringing suit; laches established where plaintiffs either supported actions later sued upon or "essentially stood mute" in "protracted silence").

New Line argues that while King may have objected to Allied in a timely fashion, King did not make his objections known to New Line itself until much later, in February 1992. However, it seems that Allied — the actual producer of the movie and the licensor of New Line — was the appropriate party to contact. New Line itself appears to have been of this same view, as evidenced by an internal New Line memorandum. The memo, written by Sara Risher to Sandra Ruch, another New Line executive, recorded the contents of the February 18 telephone call during which King's agents complained to New Line of the possessory credit. Risher told the agents that "this was a problem [King] should have dealt with the producers [Allied] on and that the producers represented to us we had this right."

The district court also found that appellants together delayed King's viewing of the film. This finding was supported by the evidence. A January 17, 1992 letter from Peter McRae of Allied to Sandra Ruch, for example, indicated that any "approach" to King had to be "carefully considered" in light of "the potential benefits we may gain." Ruch handwritten on this letter that "[w]e don't want S King to see it [the movie] before opening date." This kind of "unclean hands" behavior confirms our belief that there was no abuse of discretion in the district court's rejection of the equitable defense of laches.

IV. New York Law and Jurisdictional Claims

We have considered the various New York law claims made by King and accepted by the district court, and have concluded that the results we reach in this case under the Lanham Act are the same under the applicable New York law. We have also considered appellants' remaining arguments — including the contention that this case should be assigned to another judge and Allied's claim that the district court was without jurisdiction to enjoin foreign distribution of the movie — and found them to be without merit.

CONCLUSION

The order of the district court granting a preliminary injunction is affirmed to the extent it prohibits use of the possessory credit, but reversed to the extent it prohibits use of a "based upon" credit.

Court of Appeals, Federal Circuit

In re Oetiker

No. 91-1026

Decided October 13, 1992

PATENTS

1. Practice and procedure in Patent and Trademark Office — Prosecution — In general (§110.0901)

Patentability/Validity — Obviousness — In general (§115.0901)

"Prima facie" case is procedural tool of patent examination which allocates burdens of going forward as between examiner and applicant; examiner bears initial burden, on review of prior art or on any other ground, of presenting prima facie case of unpatentability, and if that burden is met, burden of coming forward with evidence or argument shifts to applicant, and after applicant submits such evidence in response, patentability is determined on totality of record, by preponderance of evidence with due consideration to persuasiveness of argument.

2. Practice and procedure in Patent and Trademark Office — Board of Patent Appeals and Interferences — In general (§110.1101)

Board of Patent Appeals and Interferences, in reviewing examiner's decision on appeal, must necessarily weigh all evidence and argument, and board's observation that examiner made prima facie case of unpatentability is not improper, as long as ultimate determination of patentability is made on entire record.

3. Practice and procedure in Patent and Trademark Office — Prosecution — In general (§110.0901)

Patentability/Validity — Obviousness — In general (§115.0901)

Concept of "prima facie" case of obviousness, which places initial burden on examiner, is of broad applicability and is not limited to chemical practice; that prima facie case may be established, or rebutted, by different forms of evidence in various technologies does not restrict concept to any particular field of technology.

4. Patentability/Validity — Obviousness — Relevant prior art — In general (§115.0903.01)

Patentability/Validity — Obviousness — Combining references (§115.0905)

Prior art reference, in order to be relied upon as basis for rejecting applicant's invention, must either be in field of applicant's endeavor or, if not, be reasonably pertinent to particular problem with which inventor was concerned; combination of elements from non-analogous sources, in manner that reconstructs applicant's invention only with benefit of hindsight, is insufficient to present prima facie case of obviousness.

5. Patentability/Validity — Obviousness — In general (§115.0901)

Simplicity of invention is not itself inimical to patentability.

Appeal from the U.S. Patent and Trademark Office, Board of Patent Appeals and Interferences.

Application for patent, no. 06/942,694, filed by Hans Oetiker. From decision holding claims unpatentable, applicant appeals. Reversed; Nies, C.J., and Plager, J., concurring in separate opinions.

Paul M. Craig, Jr., Washington, D.C., for appellant.

John W. Dewhurst (Fred E. McKelvey, solicitor and Robert D. Edmonds, associate solicitor, with him on brief), for appellee. Before Nies, chief judge, and Newman and Plager, circuit judges.

Newman, J.

Hans Oetiker appeals the decision of the United States Patent and Trademark Office Board of Patent Appeals and Interferences, holding unpatentable claims 1-14 and 6-21, all of the claims in patent application No. 06/942,694.¹ Oetiker appeals on procedural and substantive grounds.

PROCEDURE Background

All of the claims were finally rejected for obviousness in terms of 35 U.S.C. §103. The

¹ *Ex parte Oetiker*, No. 89-2230 (Bd. Pat. App. & Interf. May 31, 1990; on reconsideration, August 23, 1990).

Board, upholding the rejection, stated that "the examiner has . . . established a *prima facie* case of obviousness . . . which is rebutted by any objective evidence of non-obviousness." Oetiker stated that this Board holding was the first rejection of his claims for being "*prima facie* obvious," and filed rebuttal evidence with a petition for reconsideration. The Board declined to consider the new evidence or change its decision.

Oetiker states that a holding of *prima facie* obviousness means, in patent examination, that the claimed invention is subject to a rebuttable presumption of obviousness; that is, if the applicant can provide evidence or argument in support of unobviousness, such evidence and argument will be considered, and the question of patentability will be redetermined on the entire record. Oetiker states that a rejection made in the words "*prima facie* obvious" is understood by patent examiners and practitioners as an invitation to provide such rebuttal evidence.

Thus Oetiker argues that a holding by the Board of *prima facie* obviousness is a new ground of rejection, for during prosecution the examiner did not reject the claims in these words. Treating it as such, Oetiker offered affidavit evidence not previously filed, and requested reconsideration on the basis of this new evidence, or remand to the examiner for this purpose, in accordance with 37 C.F.R. §1.196(b):

§1.196(b) . . . When the Board . . . makes a new rejection of an appealed claim, the appellant may exercise either of the following two options . . .

(1) The appellant may submit . . . a showing of facts . . . and have the matter reconsidered by the examiner in which event the application will be remanded to the examiner . . .

(2) The appellant may have the case reconsidered under §1.197(b) by the Board . . . upon the same record.

The Board on reconsideration granted neither of the options of §1.196(b), stating that it had not made a new rejection.

At argument before this court the Commissioner's counsel suggested that Oetiker could refile his patent application, pay a new fee, and obtain review of this new evidence in a new examination. Oetiker states that he was entitled to a complete examination, and did not get it.

Discussion

[1] The *prima facie* case is a procedural tool of patent examination, allocating the burdens of going forward as between exam-

iner and applicant. *In re Spada*, 911 F.2d 705, 707 n.3, 15 USPQ2d 1653, 1657 n.3 (Fed. Cir. 1990). The term "*prima facie* case" refers only to the initial examination step. *In re Piasecki*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); *In re Rinehart*, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976). As discussed in *In re Piasecki*, the examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability. If that burden is met, the burden of coming forward with evidence or argument shifts to the applicant.

After evidence or argument is submitted by the applicant in response, patentability is determined on the totality of the record, by a preponderance of evidence with due consideration to persuasiveness of argument. *See In re Spada*, *supra*; *In re Corkill*, 771 F.2d 1496, 1500, 226 USPQ 1005, 1008 (Fed. Cir. 1985); *In re Caveny*, 761 F.2d 671, 674, 226 USPQ 1, 3 (Fed. Cir. 1985); *In re Johnson*, 747 F.2d 1456, 1460, 223 USPQ 1260, 1263 (Fed. Cir. 1984).

If examination at the initial stage does not produce a *prima facie* case of unpatentability, then without more the applicant is entitled to grant of the patent. *See In re Grabiak*, 769 F.2d 729, 733, 226 USPQ 870, 873 (Fed. Cir. 1985); *In re Rinehart*, *supra*.

[2] In reviewing the examiner's decision on appeal, the Board must necessarily weigh all of the evidence and argument. An observation by the Board that the examiner made a *prima facie* case is not improper, as long as the ultimate determination of patentability is made on the entire record. *In re Piasecki*, 745 F.2d at 1472, 223 USPQ at 788; *In re Rinehart*, 531 F.2d at 1052, 189 USPQ at 147.

The record here reveals that the application was fully prosecuted. References were cited and applied by the examiner, the applicant responded with argument, and the examiner then issued a final rejection, stating why he was not persuaded by the applicant's argument. On review the Board stated that its decision was reached "after careful consideration of the appealed claims, the evidence of obviousness relied upon by the examiner and the arguments advanced by the appellant and the examiner." The Board explained why it was unpersuaded by Oetiker's arguments on appeal. We discern no irregularity in the procedure. The Board, in explaining that the examiner's rejections constituted a *prima facie* case of obviousness, did not make a new rejection.

[3] Oetiker also argues that the concept of a "*prima facie* case of obviousness" has no role outside of the chemical arts. Oetiker

refers to the origins of this term in the chemical practice, where properties may not be apparent from chemical structure. Oetiker distinguishes mechanical inventions, where the properties and workings of a mechanical device are apparent in the drawing of the structure. We think that the PTO is correct in treating the concept of the *prima facie* case as of broad applicability, for it places the initial burden on the examiner, the appropriate procedure whatever the technological class of invention. That a *prima facie* case may be established, or rebutted, by different forms of evidence in various technologies does not restrict the concept to any particular field of technology. "[T]he requirement of unobviousness in the case of chemical inventions is the same as for other types of inventions." *In re Johnson*, 747 F.2d at 1460, 223 USPQ at 1263. This procedural tool is recognized in fields outside of the chemical arts. *E.g., In re Benno*, 768 F.2d 1340, 226 USPQ 683 (Fed. Cir. 1985); *In re McCarthy*, 763 F.2d 411, 226 USPQ 99 (Fed. Cir. 1985); *In re De Blauwe*, 736 F.2d 699, 222 USPQ 191 (Fed. Cir. 1984).

The Board's usage of the term *prima facie* was imprecise for, as discussed *supra*, the term "*prima facie* obvious" relates to the burden on the examiner at the initial stage of the examination, while the conclusion of obviousness *vel non* is based on the preponderance of evidence and argument in the record. However, it was clear that the Board did not make a new rejection. Therefore the Board did not err in declining to consider at that stage the proffered evidence of commercial success.

II

THE MERITS

Oetiker's invention is an improvement in a "stepless, earless" metal clamp, a hose clamp that was generally described in an earlier '004 patent of Oetiker but that differs in the presence of a feature that is described as a preassembly "hook". This "hook" serves both to maintain the preassembly automatically of the clamp and to be disengaged automatically when the clamp is tightened.

The cited references were Oetiker's earlier-granted '004 patent, combined with a certain Lauro '400 patent. Lauro describes a plastic hook and eye fastener for use in garments, in which "unitary tabs of sewing needle puncturable plastic material . . . are affixable to clothing and the like by sewing." Oetiker argues that there is no suggestion or motivation to the artisan to combine the teachings of the cited references, and that

Lauro is nonanalogous art. Oetiker concludes that these references were improperly combined; that a person of ordinary skill, seeking to solve the problem facing Oetiker, would not look to the garment art for the solution. Oetiker also argues that even if combined the references do not render the claimed combination obvious.

The examiner stated that "since garments commonly use hooks for securing . . . a person faced with the problem of unreliable maintenance of the pre-assembly configuration of an assembly line metal hose clamp would look to the garment industry art. The examiner explained further by stating that 'Appellant's device as disclosed could be utilized as part of a garment'. The Board did not repeat or support the examiner's argument, or discuss its relevance. Indeed, the argument is not supportable. However, the Board held that the Lauro reference, although not "within the appellant's specific field of endeavor" is nonetheless "analogous art" because it relates to a hooking problem, as does Oetiker's invention.

The Board apparently reasoned that all hooking problems are analogous. At least, that is the argument now pressed by the Commissioner. The Commissioner states in his brief on appeal that "A disengagable catch, such as that used by Oetiker, is a common everyday mechanical concept that is variously employed in door latches and electrical and other switches, as well as in the hook and eye apparatus disclosed by Lauro." No such references were cited, however. While this court may take judicial notice of common everyday mechanical concepts in appropriate circumstances, the Commissioner did not explain why a "catch" of unstated structure in an electrical switch, for example, is such a concept and would have made Oetiker's invention obvious. Indeed, the Commissioner did not respond to Oetiker's argument that the cited references provide no teaching or suggestion that Lauro's molded hook and eye fastener, even if combined with Oetiker's '004 clamp, would achieve Oetiker's purpose.

[4] In order to rely on a reference as a basis for rejection of the applicant's invention, the reference must either be in the field of the applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned. *See In re Deminski*, 796 F.2d 436, 442, 230 USPQ 313, 315 (Fed. Cir. 1986). Patent examination is necessarily conducted by hindsight, with complete knowledge of the applicant's invention, and the courts have recognized the subjective aspects of determining whether an inventor would reason-

ably be motivated to go to the field in which the examiner found the reference, in order to solve the problem confronting the inventor. We have reminded ourselves and the PTO that it is necessary to consider "the reality of the circumstances". *In re Wood*, 599 F.2d 1032, 1036, 202 USPQ 171, 174 (CCPA 1979) — in other words, common sense — in deciding in which fields a person of ordinary skill would reasonably be expected to look for a solution to the problem facing the inventor.

It has not been shown that a person of ordinary skill, seeking to solve a problem of fastening a hose clamp, would reasonably be expected or motivated to look to fasteners for garments. The combination of elements from non-analogous sources, in a manner that reconstructs the applicant's invention only with the benefit of hindsight, is insufficient to present a *prima facie* case of obviousness. There must be some reason, suggestion, or motivation found in the prior art whereby a person of ordinary skill in the field of the invention would make the combination. That knowledge can not come from the applicant's invention itself. *Diversitech Corp. v. Century Steps, Inc.*, 850 F.2d 675, 678-79, 7 USPQ2d 1315, 1318 (Fed. Cir. 1988); *In re Geiger*, 815 F.2d 686, 687, 2 USPQ2d 1276, 1278 (Fed. Cir. 1987); *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1147, 227 USPQ 543, 551 (Fed. Cir. 1985).

[5] Oetiker's invention is simple. Simplicity is not inimical to patentability. See *Good-year Tire & Rubber Co. v. Ray-O-Vac Co.*, 321 U.S. 275, 279, 60 USPQ 386, 388 (1944) (simplicity of itself does not negative invention); *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1572, 1 USPQ2d 1593, 1600 (Fed. Cir.) (the patent system is not foreclosed to those who make simple inventions); *cert. denied*, 481 U.S. 1052 (1987). We conclude that the references on which the Board relied were improperly combined. Accordingly, the Board erred in holding the claims unpatentable under section 103. The rejection of claims 1-4 and 16-21 is REVERSED.

Nies, C.J., concurring.

I agree with the panel decision and write only to express my understanding of the language that there must be some teaching, reason, suggestion, or motivation found "in the prior art" or "in the prior art references" to make a combination to render an invention obvious within the meaning of 35 U.S.C. § 103 (1988). Similar language appears in a

number of opinions¹ and if taken literally would mean that an invention cannot be held to have been obvious unless something specific in a prior art reference would lead an inventor to combine the teachings therein with another piece of prior art.

This restrictive understanding of the concept of obviousness is clearly wrong. Other statements in opinions express the idea more generally. We have stated, for example, that the test is: "whether the teachings of the prior art, taken as a whole, would have made obvious the claimed invention." *In re Gorman*, 933 F.2d at 986, 18 USPQ2d at 1888, and "what the combined teachings . . . would have suggested to one of ordinary skill in the art." *In re Young*, 927 F.2d 588, 591, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991). We have also stated that "the prior art as a whole must suggest the desirability . . . of making the combination." *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir.), *cert. denied*, 488 U.S. 825 (1988); *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 1462, 221 USPQ 481, 488 (Fed. Cir. 1984).

I believe that it would better reflect the concept of obviousness to speak in terms of "from the prior art" rather than simply "in the prior art." The word "from" expresses the idea of the statute that we must look at the obviousness issue through the eyes of one of ordinary skill in the art and what one would be presumed to know with that background. What would be obvious to one of skill in the art is a different question from what would be obvious to a layman. An artisan is likely to extract more than a layman from reading a reference.

In any event, variance in the language used in opinions does not change the nature of the statutory inquiry. Under section 103, subject matter is unpatentable if it "would have been obvious . . . to a person having

¹ See, e.g., *Symbol Technologies, Inc. v. Opticon, Inc.*, 935 F.2d 1569, 19 USPQ2d 1241, 1246 (Fed. Cir. 1991); *In re Gorman*, 933 F.2d 982, 989, 18 USPQ2d 1885, (Fed. Cir. 1991); *In re Mills*, 916 F.2d 680, 682, 16 USPQ2d 1430, (Fed. Cir. 1990); *Smithline Diagnostics, Inc. v. Helena Laboratories Corp.*, 859 F.2d 878, 887, 8 USPQ2d 1468, 1475 (Fed. Cir. 1988); *In re Dow Chemical Co.*, 837 F.2d 469, 473, 5 USPQ2d 1529, 1531 (Fed. Cir. 1988); *In re Stienel*, 828 F.2d 751, 755, 4 USPQ2d 1071, 1073 (Fed. Cir. 1987); *Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), *cert. denied*, 475 U.S. 1017 (1986); *In re Grabiak*, 769 F.2d 729, 732, 226 USPQ 870, 872 (Fed. Cir. 1985).

ordinary skill in the art." While there must be some teaching, reason, suggestion, or motivation to combine existing elements to produce the claimed device, it is not necessary that the cited references or prior art specifically suggest making the combination. *In re Nilsen*, 851 F.2d 1401, 1403, 7 USPQ2d 1500, 1502 (Fed. Cir. 1988). Such suggestion or motivation to combine prior art teachings can derive solely from the existence of a teaching, which one of ordinary skill in the art would be presumed to know, and the use of that teaching to solve the same of similar problem which it addresses. *In re Wood*, 599 F.2d 1032, 1037, 202 USPQ 171, 174 (CCPA 1979). See, also, *EWOP Corp. v. Reliance Universal, Inc.*, 755 F.2d 898, 906-07, 225 USPQ 20, 25 (Fed. Cir.), *cert. denied*, 474 U.S. 843 (1985); *In re Sernaker*, 702 F.2d 989, 995, 217 USPQ 1, 6 (Fed. Cir. 1983). See also, *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985) ("To support the conclusion that the claimed combination is directed to obvious subject matter, either the references must expressly or implicitly suggest the claimed combination or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.").

In sum, it is off the mark for litigants to argue, as many do, that an invention cannot be held to have been obvious unless a suggestion to combine prior art teachings is found in a specific reference.

Plager, J., concurring.

I join in the carefully-reasoned and well-written opinion of Judge Newman. With regard to Part I dealing with the PTO procedure, her explanation of the meaning and application of the "prima facie case" concept should help clarify an area that remains marked by a lack of clarity. The need for that discussion, however, illustrates the pitfalls of the "prima facie" practice of the PTO, and the difficulties created by this particular legally convoluted concept.

An applicant for a patent is entitled to the patent unless the application fails to meet the requirements established by law. It is the Commissioner's duty (acting through the examining officials) to determine that all requirements of the Patent Act are met. The burden is on the Commissioner to establish that the applicant is not entitled under the law to a patent. *In re Warner*, 379 F.2d 1011, 1016, 154 USPQ 173, 177 (CCPA 1967), *cert. denied*, 389 U.S. 1057 (1968). In rejecting an application, factual determinations by

the PTO must be based on a preponderance of the evidence, and legal conclusions must be correct. *In re Cavenev*, 761 F.2d 671, 674, 226 USPQ 1, 3 (Fed. Cir. 1985).

The process of patent examination is an interactive one. See generally, Chisum, *Patents*, § 11.03 et seq. (1992). The examiner cannot sit mum, leaving the applicant to shoot arrows into the dark hoping to somehow hit a secret objection harbored by the examiner. The "prima facie case" notion, the exact origin of which appears obscure (see *In re Piasecki*, 745 F.2d 1468, 1472, 233 USPQ 785, 788 (Fed. Cir. 1984)), seemingly was intended to leave no doubt among examiners that they must state clearly and specifically any objections (the prima facie case) to patentability, and give the applicant fair opportunity to meet those objections with evidence and argument. To that extent the concept serves to level the playing field and reduces the likelihood of administrative arbitrariness.

But the ultimate decision that must be made by the PTO in the examination process, and by this court on appeal, is not whether a prima facie case for rejection was made; the only question is whether, on the whole record, the applicant has met the statutory requirements for obtaining a patent. When a final rejection is described in terms of whether a prima facie case was made, that intermediate issue diverts attention from what should be the question to be decided.

Specifically, when obviousness is at issue, the examiner has the burden of persuasion and therefore the initial burden of production. Satisfying the burden of production, and thus initially the burden of persuasion, constitutes the so-called prima facie showing. Once that burden is met, the applicant has the burden of production to demonstrate that the examiner's preliminary determination is not correct. The examiner, and if later involved, the Board, retain the ultimate burden of persuasion on the issue.

If, as a matter of law, the issue is in equipoise, the applicant is entitled to the patent. Thus on appeal to this court as in the PTO, the applicant does not bear the ultimate burden of persuasion on the issue. In the end there is no reason there or here to argue over whether a "prima facie" case was made out. The only determinative issue is whether the record as a whole supports the legal conclusion that the invention would have been obvious.

In re Broco, 235 USPO 227 (TTAB 1984), are distinguished. In *TMS (THE MONEY SERVICE)* for financial services the applicant did not sell "money." In *House Store* (HOUSE STORE, for retail store services in the field of furniture), the applicant did not sell "houses." In *Broco (THE LIBRARY COMPANY)* for library supply services the applicant did not sell "libraries." Appellant here does sell wickware, hence the rationale supporting registrability in the cited cases is inapplicable.

Decision:

The refusal of registration is affirmed.

Patent and Trademark Office Board of Patent Appeals and Interferences

Ex parte Clapp

Opinion dated Feb. 28, 1985

PATENTS

1. Anticipation — Combining references (§31.205)

To support conclusion that claimed combination is directed to obvious subject matter, references must either expressly or implicitly suggest claimed combination or examiner must present convincing line of reasoning as to why artisan would have found claimed invention to have been obvious in light of references teachings.

Application for patent of Thomas R. Clapp, Serial No. 257,162, filed Apr. 24, 1981. From rejection of Claim 9-19, applicant appeals (Appeal No. 533-54). Reversed.

Gomer W. Walters, for appellant.

Before Bennett, Henon and Spencer, Examiners-in-Chief.

Henon, Examiner-in-Chief.

This appeal is from the decision of the examiner rejecting claims 9 through 19, which constitute all the claims remaining in the application.

The invention relates to an auger type mixing apparatus for mixing cementitious materials employing a volatile liquid. Representative claim 9 reads as follows:

9. Apparatus mounted on a vehicle for mixing a cementitious material in which a volatile liquid is employed comprising: an enclosed mixing chamber sealed to prevent the escape of the volatile liquid and any potentially dangerous fumes; a solid frame forming the top of said mixing chamber and having an inlet end thereof pivotably mounted on the vehicle; an easily removable elastomeric trough forming the bottom of said mixing chamber, the elastomeric material selected to be compatible with the materials being mixed; an auger having a central shaft and mounted in said frame to convey materials through said mixing chamber; mixing paddles mounted on the shaft of said auger; a drive motor for said auger mounted on said frame; a releasable flexible coupling between the aligned shafts of said motor and said auger to permit removal of said auger from said frame; an inlet hopper to introduce substantially dry materials into said mixing chamber; liquid injection means to introduce a liquid into said mixing chamber at a distance removed from said inlet hopper to have said substantially dry material form a plug to prevent the liquid and any fumes from backing up said inlet hopper; and a discharge opening formed in said elastomeric trough.

The references relied on by the examiner are:

Clemens	2,159,205	May 23, 1939
August	2,709,075	May 24, 1955
Tiemersma	3,199,145	Aug. 10, 1965
Cunningham	3,227,424	Jan. 4, 1966
Zimmerman	3,310,293	Mar. 21, 1967
Futty et al. (Futty)	3,339,898	Sep. 5, 1967
Wilkinson et al. (Wilkinson)	3,348,820	Oct. 24, 1967
Lasar	3,901,483	Aug. 26, 1975

Claims 9 through 14 and 17 stand rejected as being directed to obvious subject matter within the meaning of 35 U.S.C. 103 in light of the teachings of Zimmerman in view of Wilkinson, Futty, Lasar, Clemens and Cunningham. The examiner contends that Zimmerman discloses the claimed subject matter except for "having the mixing chamber enclosed with a solid top frame and having a removable auger and having liquid injection means and aligned shafts between the motor and auger and a discharge formed in the elastomeric trough." (final rejection, page 2, paper number 5). The examiner cites Wilkinson as disclosing an enclosed mixing chamber

where the enclosure comprises an inverted substantially U-shaped top frame portion and concludes that it therefore would be obvious to the artisan to modify the open frame in Zimmerman to be an enclosed mixing chamber as taught by Wilkinson "if desired." Since Wilkinson also discloses the concept of providing liquid injection means for the introduction of liquid into a mixing chamber remote from the inlet hopper, the examiner concludes that it would therefore be obvious to modify Zimmerman accordingly. Since Lasar discloses the concept of having an auger with mixing paddles mounted thereon wherein the auger is releasably coupled to a frame, the examiner concludes that it would have been obvious to the artisan to modify the auger in Zimmerman as taught by Lasar. Futty is cited to show that it is well known to provide coaxial alignment between an auger shaft and the shaft of a driving motor. Clemens is cited as disclosing the concept of having a discharge opening in a trough. The examiner concludes that it would have been obvious in light of Futty and Clemens to modify the auger/motor alignment and discharge opening of Zimmerman to be of the nature suggested by Futty and Clemens. Cunningham is cited as disclosing seal means to preclude leakage of the material within the mixing chamber. The examiner concludes that it would have been obvious in light of the teachings of Cunningham to employ seal means on the modified device of Zimmerman. Claim 15 stands rejected as being directed to obvious subject matter under 35 U.S.C. 103 in light of the combined teachings of Zimmerman, Wilkinson, Futty, Lasar, Clemens and Cunningham in the manner specified supra, the examiner concludes that it would have been further obvious to the artisan in light of the teachings of August to provide spray elements with selectively activated controls since August teaches such devices to be known.

Claims 16, 18 and 19 stand rejected as being directed to obvious subject matter under 35 U.S.C. 103 in light of the combined teachings of Zimmerman, Wilkinson, Futty, Lasar, Clemens, Cunningham and Tiemersma. Combining the teachings of Zimmerman, Wilkinson, Futty, Lasar, Clemens and Cunningham in the manner specified supra, the examiner concludes that it would have been further obvious to the artisan in light of the teachings of August to provide spray elements with selectively activated controls since August teaches such devices to be known.

Claims 16, 18 and 19 stand rejected as being directed to obvious subject matter under 35 U.S.C. 103 in light of the combined teachings of Zimmerman, Wilkinson, Futty, Lasar, Clemens, Cunningham and Tiemersma. Combining the teachings of Zimmerman, Wilkinson, Futty, Lasar, Clemens and Cunningham in the manner specified supra, the examiner concludes that it would have been obvious to further modify the structure of Zimmerman to include a gas-filled bearing housing for sealing purposes.

Rather than reiterate the arguments of appellant and the examiner, reference is made to the brief and answer for the respective details thereof.

Opinion

We will not sustain any of the rejections.

[1] Presuming arguendo that the references show the elements or concepts urged by the examiner, the examiner has presented no line of reasoning, and we know of none, as to why the artisan viewing only the collective teachings of the references would have found it obvious to selectively pick and choose various elements and/or concepts from the several references relied on to arrive at the claimed invention. In the instant application, the examiner has done little more than cite references to show that one or more elements or subcombinations thereof, when each is viewed in a vacuum, is known. The claimed invention, however, is clearly directed to a combination of elements. That is to say, appellant does not claim that he has invented one or more new elements but has presented claims to a new combination of elements. To support the conclusion that the claimed combination is directed to obvious subject matter, either the references must expressly or implicitly suggest the claimed combination or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references. We find nothing in the references that would expressly or implicitly teach or suggest the modifications urged by the examiner. Additionally, as aforementioned, we find no line of reasoning in the answer, and we know of none, as to why the artisan would have found the modifications urged by the examiner to have been obvious. Based upon the record before us, we are convinced that the artisan would not have found it obvious to selectively pick and choose elements or concepts from the various references so as to arrive at the claimed invention without using the claims as a guide. It is to be noted that simplicity and hindsight are not proper criteria for resolving the issue of obviousness. Note In re Horn, 203 USPO 969, 971 (CCPA 1979). Accordingly, we will not sustain any of the rejections presented.

The decision of the examiner rejecting claims 9 through 19 as being directed to obvious subject matter within the meaning of 35 U.S.C. 103 is reversed.

District Court, E. D. Pennsylvania

Allen Organ Company v. ELKA S.p.A.

No. 85-90

Court of Appeals, Federal Circuit

In re Fritch

No. 91-1318

Decided August 11, 1992

JUDICIAL PRACTICE AND PROCEDURE

1. Procedure — Judicial review — Standard of review — Patents (§410.4607.09)

Obviousness determination is based on underlying factual inquiries concerning claimed invention and prior art, which are reviewed for clear error on appeal, but ultimate conclusion of obviousness is reviewed as matter of law.

PATENTS

2. Patent construction — Claims — Broad or narrow (§125.1303)

Prior art patent for grass edging and watering device cannot be held to teach that device is flexible and conformable to ground in its entirety, since base portion of device includes prominent anchoring leg which would inhibit longitudinal flexibility, and since patent's express teaching that trench is necessary to install device in harder ground shows that it is not freely conformable thereto.

3. Patentability/Validity — Obviousness — Relevant prior art — Particular inventions (§115.0903.03)

Patentability/Validity — Obviousness — Combining references (§115.0905)

Claims for landscape edging device are not *prima facie* obvious in view of combined teachings of two prior patents, since primary reference does not suggest overall flexibility and landscape retention function of claimed device, and since secondary reference does not, merely by virtue of flexibility of device described therein, suggest extensive modifications which would bring primary reference into conformity with application claims.

4. Patentability/Validity — Obviousness — Combining references (§115.0905)

Mere fact that prior art may be modified to reflect features of claimed invention does not make modification, and hence claimed invention, obvious unless desirability of such modification is suggested by prior art: claimed invention cannot be used as instructional manual or "template" to piece together teachings of prior art so that claimed invention is rendered obvious.

Appeal from the U.S. Patent and Trademark Office, Board of Patent Appeals and Interferences.

Patent application of John R. Fritch (serial no. 06/838,721, landscape apparatus and method). From decision upholding rejection of application claims 1-7, 9-24, 29 and 30, applicant appeals. Reversed.

Charles L. Gholz, of Oblon, Spivak, McClelland, Maier & Neustadt, Arlington, Va. (John R. Fritch, Corpus Christi, Texas, on brief), for appellant.

Jameson Lee, associate solicitor (Fred E. McKelvey, solicitor, with him on brief; Richard E. Schafer, of counsel), for appellee.

Before Smith, senior circuit judge, and Plager and Rader, circuit judges.

Smith, J.

John R. Fritch (Fritch) appeals the 27 February 1991 decision of the Patent and Trademark Office Board of Patent Appeals and Interferences (Board) affirming-in-part the Examiner's final rejection of the remaining claims in Fritch's application entitled Landscape Edging Apparatus and Method.¹ The Examiner concluded that Fritch's invention would have been obvious to one of ordinary skill in the art and was therefore unpatentable under 35 U.S.C. § 103. The Board, except for allowing claim 28, agreed. The Board's decision is reversed.

Issue

The issue is whether the Board erred in affirming the Examiner's determination that the prior art references of Wilson and Hendrix rendered the subject matter of Fritch's independent claims 1, 13, 24, and 29 obvious to one of ordinary skill in the art.

Background

In his final rejection, the Examiner rejected claims 1-24 and 27-30 of Fritch's application as unpatentable for obviousness under 35 U.S.C. § 103. Fritch appealed the final rejection to the Board. The Board affirmed the rejection as to claims 1-24, 29 and 30, entered a new ground of rejection for claim 27, and reversed as to claim 28. The Board agreed with the Examiner that the teachings of the Wilson and Hendrix patents rendered

¹ Serial No. 06/838,721.

the subject matter of independent claims 1, 13, 24, and 29 obvious to one of ordinary skill in the art. Fritch does not appeal the Board's disposition as to claims 27 and 28, and at oral argument withdrew the appeal as to claim 8. The claims remaining in this appeal are 1-7, 9-24, 29 and 30.

The Fritch Invention

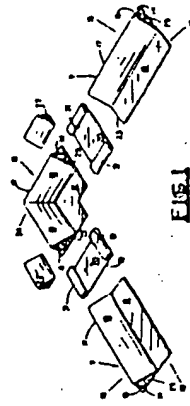
The invention claimed by Fritch involves a landscape edging device which includes a planar base portion and an upwardly extending retainer portion. The base portion is elongate, thin, flexible and has a planar bottom surface conformable to a varying slope ground surface. One longitudinal edge of the base portion serves as a mowing strip and the other serves as a retaining flange for landscape fill. The upwardly extending retainer portion is integrally connected (e.g., fused) to the base portion and defines a longitudinally extending enclosed space. The Fritch invention is intended to be used as a retainer for landscape fill in order to separate unmowable landscape fill from the mowable lawn. It may also be used to secure a landscaping sheet to the ground, or to function as guards at the base of a fence. Independent claims 1 and 13 on appeal are representative of the subject matter claimed:

1. A landscape edging strip formed in its entirety of a thin gauge, flexible material and conformable to a ground surface of varying slope, comprising a continuous elongate, thin gauge, flexible base portion having a planar bottom surface conformable to said varying slope ground surface; a thin gauge, elongate retainer portion integral with said base portion and extending upwardly therefrom and transversely thereover to overlie a portion of said base portion; all of said retainer portion defining a longitudinally extending enclosed space; said retainer portion being integrally connected to said base portion adjacent one longitudinal edge of said base portion to define a mowing strip adjacent the other longitudinal edge of said base portion.

13. A landscape edging strip formed in its entirety from thin gauge, flexible material and conformable to a ground surface of varying slope, comprising a continuous elongate, thin gauge, flexible base portion having a planar bottom surface conformable to said varying slope ground surface; a thin gauge, elongate retainer portion

integral with said base portion and extending upwardly therefrom and transversely thereover to overlie a portion of said base portion; all of said retainer portion defining a longitudinally extending enclosed space; said retainer portion being integrally connected to said base portion at a transverse location between the longitudinal edges of said base portion, thereby defining a longitudinally extending retaining flange on one side of said retainer portion and a mowing strip on the other side of said retainer portion.

The critical language in Fritch's independent claims is that the device is to be, in its entirety, both flexible and "conformable to a ground surface of varying slope". These limitations, although located in the claims' preambles, "are necessary to give meaning to the claim[s] and properly define the invention." Figure 1 from Fritch's drawings is reproduced below:



The Prior Art
a. The Wilson Patent

The Wilson patent relied upon by the Examiner and the Board is entitled "Grass Edging and Watering Device". The embodiment of the Wilson device includes a substantially flat mowing strip extending horizontally from a longitudinally extending body portion. Opposite the mowing strip is a scored flange which may be broken off when not needed or wanted. Between the mowing strip and the flange, and extending vertically from the body portion is an anchoring leg. Located above the anchoring leg is the body portion which contains a water conduit and sprinkler head assembly. The device is intended to be used adjacent to the borders of walks and plant beds. Figures 1 and 4 from Wilson's drawings are reproduced below:

² Perkin Elmer Corp. v. Computervision Corp., 732 F.2d 888, 896, 221 USPQ 669, 675 (Fed. Cir. 1984).

³ U.S. Patent No. 3,485,449.

Standard of Review

[1] "[O]bviousness is a question of law to be determined from the facts."¹ The obviousness determination "is based upon underlying factual inquiries concerning the claimed invention and the prior art" which are reviewed for clear error.² However, it is the ultimate conclusion of obviousness which the Federal Circuit reviews as a matter of law.³



Teachings of Wilson

Fritch takes exception to the Examiner's findings of fact related to the teachings of the Wilson patent. The Examiner's rejection and the Board's opinion rely heavily on the use of Wilson in view of other references to declare the Fritch invention obvious. The Board states that it agrees with the Examiner's finding of fact regarding the teachings of Wilson. In the Examiner's answer, which the Board quotes, the Wilson device is described as follows:

Wilson discloses a landscaping edging strip comprising a relatively thin gauge, elongated flexible base portion including a mower strip B having a planar bottom surface conformable to a varying slope surface.

The Board states that the Wilson reference presents "substantial evidence that Wilson is both thin and flexible." The Board regards the Wilson device as teaching that it is flexible and conformable in its entirety. This finding demonstrates clear error.

[2] It is well settled that a prior art reference is relevant for all that it teaches to those of ordinary skill in the art.⁴ The base portion of Wilson is not planar in its entirety, as the Board's opinion suggests, but also includes a prominent anchoring leg to secure the device to the ground. The anchoring leg, which runs the length of the Wilson device, would inhibit longitudinal flexibility of the Wilson device. Indeed, Wilson expressly contemplates flexibility and conformability only in the mower strip. Wilson states that its mower strip may be lifted in order to pack dirt thereunder for the purpose of securing the device to the ground. Fritch, on the other hand, is claimed to be flexible in its entirety.

¹ *In re De Blauwe*, 736 F.2d 699, 703, 222 USPQ 191, 195 (Fed. Cir. 1984).

² *In re Kulling*, 897 F.2d 1147, 1149, 14 USPQ2d 1056, 1057 (Fed. Cir. 1990).

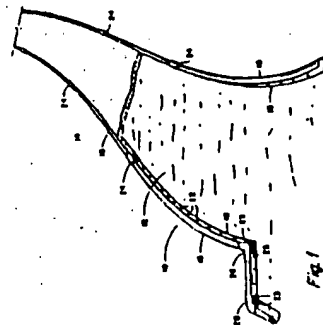
³ *In re De Blauwe*, 736 F.2d at 703, 222 USPQ at 195.

⁴ *Beckman Instruments Inc. v. LKB Produkter AB*, 892 F.2d 1547, 1551, 13 USPQ2d 1301, 1304 (Fed. Cir. 1989).

b. The Hendrix Patent

The Hendrix patent is entitled "Loose Material Retainer Strip." The Solicitor chose not to discuss the Hendrix reference in his brief, stating that the Board had deemed Hendrix unnecessary to its decision. The Solicitor overstates the Board's position. The Board based its decision upon "a collective evaluation of the Wilson and Hendrix patents." We include Hendrix in our discussion because it did play a role in the rejection of Fritch's independent claims.

The Hendrix device is composed of elongated, flexible strips having substantially C-shaped cross-section. The bottom lip of the device is to be wider than the top lip in order to facilitate fastening the device to the ground. The device will fit most gentle contours, and the top lip will yield laterally to build-up of gravel until the gravel can be redistributed. The concave portion of the strip is installed such that it faces the material to be retained in place. Hendrix contemplates that the retainer will be used in retaining gravel in driveways, lining flower beds, or on the shoulders of asphalt or concrete highways. Figure 1 of Hendrix's drawings is reproduced below:



⁵ U.S. Patent No. 4,349,596.

The Board's holding that Wilson is flexible in its entirety is based upon a misapprehension of the scope of Wilson's teachings.

Second, Wilson's anchoring leg prohibits conformability to the ground surface in the manner claimed by Fritch. The Examiner's description of Wilson as having a "planar bottom surface conformable to a varying slope surface" is applicable only in reference to the mower strip. This description, however, ignores the anchor leg and the fact that it must be placed into the ground. Wilson expressly teaches that the anchoring leg may be pushed into soft soils, but in harder terrain a trench is needed in order to place the Wilson sprinkler system. In order to install the Wilson apparatus, the ground surface must be altered to conform to the device rather than, as the Solicitor contends, that Wilson is freely conformable to the ground. Fritch, on the other hand, does not require such extensive alteration of the ground surface in order to install the device.

Prima Facie Obviousness

In proceedings before the Patent and Trademark Office, the Examiner bears the burden of establishing a prima facie case of obviousness based upon the prior art.⁶ "[The Examiner] can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references."⁷ The patent applicant may then attack the Examiner's prima facie determination as improperly made out, or the applicant may present objective evidence tending to support a conclusion of nonobviousness.⁸

Fritch has attacked the Board's finding that the Examiner established that Fritch's claimed invention was prima facie obvious in view of the teachings of the prior art. The Board states that "a collective evaluation of the Wilson and the Hendrix patents would have rendered the subject matter of independent claims 1, 13, 24, and 29 obvious to one of ordinary skill." Fritch maintains that there is no teaching, suggestion, or incentive in the prior art to modify or to combine the

teachings of the prior art in the manner suggested by the Examiner. We agree.

[3] Wilson teaches a grass edging and watering device which includes an anchoring leg for securing the device to the ground. Wilson contemplates that a trench will need to be dug in order to allow the anchoring leg to be placed into the ground if the condition of the soil requires it. This anchoring leg prohibits flexibility and conformability over the length of Wilson. Any flexibility or conformability in Wilson, which the Board states extends to the entire device, is limited to the mower strip. It is only the mower strip that is mentioned as being flexible in order to aid installation. Hendrix has been cited for its teaching of a flexible retainer strip that is able to conform to the ground surface.

Wilson addresses the problems of arresting growth of grass between areas and watering plants without wetting sidewalks. Wilson lacks any suggestion or incentive to use its water conduit as a landscape retainer since this would arguably result in clogged sprinkler heads.⁹ Wilson also teaches that its mower strip is flexible in order to allow dirt to be packed thereunder. There is no suggestion in Wilson to extend that flexibility to the entire device. Wilson also lacks any teaching or suggestion that one should remove the anchoring leg. Hendrix does not, simply by virtue of its flexible nature, suggest these extensive changes which the Board states are obvious. Neither Wilson nor Hendrix, alone or in combination, provide any incentive to combine the teachings of the prior art in the manner maintained by the Board.

[4] "Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. Under section 103, teachings of references can be combined only if there is some suggestion or incentive to do so."¹⁰ Although couched in terms of combining teachings found in the prior art, the same inquiry must be carried out in the context of a purported obvious "modification" of the prior art. The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested

¹¹ This court has previously found a proposed modification inappropriate for an obviousness inquiry when the modification rendered the prior art reference inoperable for its intended purpose. *In re Gordon*, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984).

¹² *ACS Hosp. Systems, Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984).

¹³ *In re Plasecki*, 745 F.2d 1468, 1471-72, 223 USPQ 785, 787-88 (Fed. Cir. 1984).

¹⁴ *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1396, 1598 (Fed. Cir. 1988) (citing *In re Lulu*, 747 F.2d 703, 705, 223 USPQ 1257, 1258 (Fed. Cir. 1988)).

¹⁵ *In re Heldt*, 433 F.2d 808, 811, 167 USPQ 676, 678 (CCPA 1970).

the desirability of the modification.¹⁴ Wilson and Hendrix fail to suggest any motivation for, or desirability of, the changes espoused by the Examiner and endorsed by the Board.

Here, the Examiner relied upon hindsight to arrive at the determination of obviousness. It is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious.¹⁵ This court has previously stated that "[o]ne cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention."¹⁶

Conclusion

The decision of the Board affirming the Examiner's rejection of independent claims 1, 13, 24, and 29 of Fritch's application as unpatentable over the prior art under 35 U.S.C. § 103 is reversed. Since dependent claims are nonobvious if the independent claims from which they depend are nonobvious, the Board's affirmation of the rejection of dependent claims 2-7, 9-12, 14-23, and 30 is also reversed.¹⁷ **REVERSED**

U.S. Patent and Trademark Office Trademark Trial and Appeal Board

CBS Inc. v. Mercandante

Nos. 85,324 and 85,330

Decided June 15, 1992

¹⁴ *In re Gordon*, 733 F.2d at 902, 221 USPQ at 1127.

¹⁵ *In re Gorman*, 933 F.2d 982, 987, 18 USPQ2d 1885, 1888 (Fed. Cir. 1991). See also *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1138, 227 USPQ 543, 547 (Fed. Cir. 1985).

¹⁶ *In re Fine*, 837 F.2d at 1075, 5 USPQ2d at 1600.

¹⁷ *In re Fine*, 837 F.2d at 1076, 5 USPQ2d at 1600 (citing *Hartness Int'l, Inc. v. Simplimatic Eng. Co.*, 819 F.2d 1100, 1108, 2 USPQ2d 1826, 1831 (Fed. Cir. 1987)). See also *In re Sernaker*, 702 F.2d 989, 991, 217 USPQ 1, 3 (Fed. Cir. 1983) (when argued together, dependent claims stand or fall with the independent claims from which they depend).

Released June 25, 1992

TRADEMARKS AND UNFAIR TRADE PRACTICES

I. Acquisition, assignment, and maintenance of marks — Acquisition through use — Priority of use (§305.0503)

Practice and procedure in Patent and Trademark Office — Interpartes proceedings — Opposition and cancellation — In general (§325.0305.01)

Infringement; conflicts between marks — Likelihood of confusion — In general (§335.0301)

Opposer which uses mark "Rescue: 911" for its television show, which asserts that it has licensed use of mark on various merchandise items, and which seeks to oppose registration of "911 Rescue Bars," for candy bars, must clearly indicate in its pleading whether its claim of likelihood of confusion is based upon its services or its collateral merchandise, or both, and whether it claims priority of use of its mark on its collateral merchandise.

Consolidated trademark oppositions no. 85,324 and 85,330, by CBS Inc. against James V. Mercandante and Rose Marie Mercandante, d/b/a 911 Rescue Bar, applications serial no. 74/076,762, filed July 9, 1990, and 74/081,873, filed July 25, 1990, in which applicants counterclaim to cancel opposer's pleaded registration. On opposer's motion to amend its answer to counterclaim, and on applicant's motions to strike opposer's affirmative defenses, and for judgment on the pleadings. Motion for judgment on pleadings granted in part.

David S. Fishman, Windsor, Conn., for applicants.

Marshall J. Nelson, Washington, D.C., for opposer.

Before Sams, Rice, and Quinn, members.

By the board.

James V. Mercandante and Rose Marie Mercandante filed applications to register

911 RESCUE BAR¹ and 911 RESCUE BAR and design² for candy bars.

CBS Inc. opposed the registration of applicant's marks on the ground of priority of use and likelihood of confusion. Opposer claims use of the mark RESCUE: 911 as a service mark for a television program series since prior to May 31, 1990.³ Opposer has made the following allegations:

7. As a result of the tremendous popularity of Opposer's television program series "RESCUE: 911," Opposer has entered into several licensing arrangements and has licensed the use of its mark "RESCUE: 911" for various merchandise items, such as mugs, caps, T-shirts, sweatshirts, watches and toys.

8. Upon information and belief, Applicant has made no use in the United States of the mark "911 RESCUE BAR" prior to May 31, 1990.

9. Upon information and belief, the goods for which Applicant seeks to register its mark — candy bars — are related to those in connection with which Opposer has used its "RESCUE: 911" mark.

10. The dominant portion of Applicant's mark contains a word and number identical to the word and number comprising Opposer's mark, but in reverse order, and so resembles Opposer's "RESCUE: 911" mark, as to be likely when applied to the goods of the Applicant, to cause confusion, or to cause mistake or to deceive. As Applicant has disclaimed the exclusive right to use "BAR," it is evident that "911 RESCUE" is the dominant portion of the Applicant's mark.

11. As a result of Applicant's use of the mark "911 RESCUE BAR," the public is likely to be confused and deceived into the mistaken belief that goods offered and advertised by Applicant have their origin with Opposer, and that such goods are approved, endorsed, or sponsored, by, or associated in some way with, Opposer. This confusion is likely since Opposer is already using its mark "RESCUE: 911" on various merchandise items, as noted in Paragraph 7 above. Applicant's use of the

mark "911 RESCUE BAR" on candy bars would lead the public into the mistaken belief that these candy bars are another merchandise item on which Opposer is using its mark.

12. Opposer would be injured by granting Applicant a certificate of registration for its mark, because it is so similar to Opposer's "RESCUE: 911" mark that, when applied to the goods of Applicant, it would be likely to cause confusion, to cause mistake or to deceive and would suggest falsely a connection with Opposer. Opposer further would be injured by the granting of such registration, because it inevitably would damage Opposer's valuable rights in its "RESCUE: 911" mark.

In their answer, applicants admitted paragraph Nos. 9 and 10 of the opposition; denied paragraph No. 11, asserting that in view of applicants' superior rights in their marks, "[i]t is Opposer's use (rather than Applicant's use) of the mark" which will confuse and deceive the public; denied paragraph No. 12, asserting that in view of applicants' superior rights in their marks, applicant (not opposer) will be injured; and denied the remaining allegations.

Applicants filed a counterclaim to cancel opposer's pleaded registration on the grounds of priority of use and likelihood of confusion. Applicants allege use of the marks 911 RESCUE BAR since at least as early as October 22, 1985,⁴ and 911 RESCUE TEAM on t-shirts since at least as early as December 4, 1985.

Opposer denied the salient allegations in applicants' counterclaim to cancel opposer's pleaded registration and pleaded the affirmative defenses of laches, acquiescence and estoppel. Opposer also pleaded that applicants have abandoned use of their marks 911 RESCUE BAR and 911 RESCUE TEAM and that because there are no grounds to support the allegations in the counterclaim, applicants filed the counterclaim in violation of Fed. R. Civ. P. 11.

On April 1, 1992, applicants filed a motion under Fed. R. Civ. P. 12(e) requesting that paragraph No. 17 of applicants' coun-

¹ Applicants' counterclaim does not state the goods on which applicants have used, since October 22, 1985, the mark 911 RESCUE BAR; presumably, applicants claim use of 911 RESCUE BAR on candy bars.

² Application Serial No. 74/076,762, filed July 9, 1990, claiming dates of use on May 31, 1990.

³ Application Serial No. 74/081,873, filed July 25, 1990, claiming dates of use on May 31, 1990.

⁴ Opposer claims ownership of Registration No. 1,592,451 for the mark RESCUE: 911 for entertainment services, namely, television series. The registration issued from an application filed August 21, 1989, claiming use since April 10, 1989.